



# Flood Risk Report - Draft

*Schuylkill Watershed, HUC 02040203*

*Schuylkill County\*, Pennsylvania*

*\*Spans more than one watershed. This report only covers the area within the studied watershed.*

Report Number 01

*09/30/2017*



**FEMA**

**RiskMAP**  
Increasing Resilience Together

## Project Area Community List

Community Name
Borough of Ashland <sup>1</sup>
Borough of Auburn <sup>2</sup>
Borough of Coaldale <sup>2</sup>
Borough of Cressona <sup>2</sup>
Borough of Deer Lake <sup>2</sup>
Borough of Frackville <sup>1</sup>
Borough of Gilberton <sup>1</sup>
Borough of Girardville <sup>1</sup>
Borough of Gordon <sup>1</sup>
Borough of Landingville <sup>2</sup>
Borough of Mahanoy City <sup>1</sup>
Borough of McAdoo <sup>1</sup>
Borough of Mechanicsville <sup>2</sup>
Borough of Middleport <sup>2</sup>
Borough of Minersville <sup>2</sup>
Borough of Mount Carbon <sup>2</sup>
Borough of New Philadelphia <sup>2</sup>
Borough of New Ringgold <sup>2</sup>
Borough of Orwigsburg <sup>2</sup>
Borough of Palo Alto <sup>2</sup>
Borough of Pine Grove <sup>1</sup>
Borough of Port Carbon <sup>2</sup>
Borough of Port Clinton <sup>2</sup>
Borough of Ringtown <sup>1</sup>
Borough of Schuylkill Haven <sup>2</sup>
Borough of Shenandoah <sup>1</sup>
Borough of St. Clair <sup>2</sup>

Community Name
Borough of Tamaqua* <sup>2</sup>
Borough of Tower City <sup>1</sup>
Borough of Tremont <sup>1</sup>
City of Pottsville <sup>2</sup>
Township of Barry <sup>1</sup>
Township of Blythe <sup>2</sup>
Township of Branch* <sup>2</sup>
Township of Butler* <sup>2</sup>
Township of Cass* <sup>2</sup>
Township of Delano* <sup>2</sup>
Township of East Brunswick* <sup>2</sup>
Township of East Norwegian <sup>2</sup>
Township of East Union <sup>1</sup>
Township of Eldred <sup>1</sup>
Township of Foster* <sup>2</sup>
Township of Frailey* <sup>1</sup>
Township of Hegins* <sup>1</sup>
Township of Hubley <sup>1</sup>
Township of Kline* <sup>2</sup>
Township of Mahanoy* <sup>2</sup>
Township of New Castle* <sup>2</sup>
Township of North Manheim <sup>2</sup>
Township of North Union <sup>2</sup>
Township of Norwegian <sup>2</sup>
Township of Pine Grove <sup>1</sup>
Township of Porter* <sup>1</sup>
Township of Reilly* <sup>2</sup>

\* Community spans multiple watersheds.

<sup>1</sup> Community is NOT within scoped project area but has been added to the list above in preparation for future efforts; note that this community will NOT be included in the Table of Contents or Section 3.

<sup>2</sup> Community is within scoped project area and has Flood Risk Assessment data included within this Flood Risk Report.

### Project Area Community List (continued)

[illegible]

\* Community spans multiple watersheds.

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# Preface

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The Department of Homeland Security (DHS), Federal Emergency Management Agency's (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) program provides states, tribes, and local communities with flood risk information and tools that they can use to increase their resilience to flooding and better protect their citizens. By pairing accurate floodplain maps with risk assessment tools and planning and outreach support, Risk MAP has transformed traditional flood mapping efforts into an integrated process of identifying, assessing, communicating, planning for, and mitigating flood-related risks.

This Flood Risk Report (FRR) provides non-regulatory Flood Risk information to help local or tribal officials, floodplain managers, planners, emergency managers, and others better understand their flood risk, take steps to mitigate those risks, and communicate those risks to their citizens and local businesses.

Because flood risk often extends beyond community limits, the FRR provides flood risk data for the entire Flood Risk Project as well as for each individual community. This also emphasizes that flood risk reduction activities may impact areas beyond jurisdictional boundaries.

Flood risk is always changing, and there may be other studies, reports, or sources of information available that provide more comprehensive information. The FRR is not intended to be regulatory or the final authoritative source of all flood risk data in the project area. Rather, it should be used in conjunction with other data sources to provide a comprehensive picture of flood risk within the project area.



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# FLOOD RISK REPORT

## 1 Introduction

### 1.1 About Flood Risk

Floods are naturally occurring phenomena that can and do happen almost anywhere. In its most basic form, a flood is an accumulation of water over normally dry areas. Floods become hazardous to people and property when they inundate an area where development has occurred, causing losses. Mild flood losses may have little impact on people or property, such as damage to landscaping or the generation of unwanted debris. Severe flooding can destroy buildings, ruin crops, and cause critical injuries or death.

#### 1.1.1 Calculating Flood Risk

It is not enough to simply identify where flooding may occur. Just because one knows where a flood occurs does not mean they know the **risk** of flooding. The most common method for determining flood risk, also referred to as vulnerability, is to identify the probability of flooding and the consequences of flooding. In other words:

**Flood Risk = Probability x Consequences;** where

- **Probability** = the likelihood of occurrence
- **Consequences** = the estimated impacts associated with the occurrence

**The probability of a flood** is the likelihood that a flood will occur. The probability of flooding can change based on physical, environmental, and/or contributing engineering factors. Factors affecting the probability that a flood will impact an area range from changing weather patterns to the existence of mitigation projects. The ability to assess the probability of a flood and the level of accuracy for that assessment are also influenced by modeling methodology advancements, better knowledge, and longer periods of record for the water body in question.

**The consequences of a flood** are the estimated impacts associated with the flood occurrence. Consequences relate to humans' activities within an area and how a flood impacts the natural and built environments.



Flooding is a natural part of our world and our communities. Flooding becomes a significant hazard, however, when it intersects with the built environment.

Which picture below shows more flood risk?



Even if you assume that the flood in both pictures was the same probability—let's say a 10-percent-annual-chance flood—the consequences in terms of property damage and potential injury as a result of the flood in the bottom picture are much more severe. Therefore, the flood risk in the area shown in the bottom picture is higher.

### 1.1.2 Flood Risk Products

Through Risk MAP, FEMA provides communities with updated Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) Reports that focus on the probability of floods and that show where flooding may occur as well as the calculated 1-percent-annual-chance flood elevation. The 1-percent-annual-chance flood, also known as the base flood, has a 1% chance of being equaled or exceeded in any given year. FEMA understands that flood risk is dynamic—that flooding does not stop at a line on a map—and as such, provides the following flood risk products:

- **Flood Risk Report (FRR):** The FRR presents key risk analysis data for the Flood Risk Project.
- **Flood Risk Map (FRM):** Like the example found in Section 3.1 of this document, the FRM shows a variety of flood risk information in the project area. More information about the data shown on the FRM may be found in Section 2 of this report.
- **Flood Risk Database (FRD):** The FRD is in Geographic Information System (GIS) format and houses the flood risk data developed during the course of the flood risk analysis that can be used and updated by the community. After the Flood Risk Project is complete, this data can be used in many ways to visualize and communicate flood risk within the Flood Risk Project.



Whether or not an area might flood is one consideration. The extent to which it might flood adds a necessary dimension to that understanding.

These Flood Risk Products provide flood risk information at both the Flood Risk Project level and community level (for those portions of each community within the Flood Risk Project). They demonstrate how decisions made within a Flood Risk Project can impact properties downstream, upstream, or both. Community-level information is particularly useful for mitigation planning and emergency management activities, which often occur at a local jurisdiction level.

## 1.2 Uses of this Report

The goal of this report is to help inform and enable communities and tribes to take action to reduce flood risk. Possible users of this report include:

- Local elected officials
- Floodplain managers
- Community planners
- Emergency managers
- Public works officials
- Other special interests (e.g., watershed conservation groups, environmental awareness organizations, etc.)



Vulnerability of infrastructure is another important consideration.

State, local, and tribal officials can use the summary information provided in this report, in conjunction with the data in the FRD, to:

- **Update local hazard mitigation plans.** As required by the 2000 Disaster Mitigation Act, local hazard mitigation plans must be updated at least every five (5) years. Summary information presented in Section 3 of this report and the FRM can be used to identify areas that may need additional focus when updating the risk assessment section of a local hazard mitigation plan. Information found in Section 4 pertains to the different mitigation techniques and programs and can be used to inform decisions related to the mitigation strategy of local plans.
- **Update community comprehensive plans.** Planners can use flood risk information in the development and/or update of comprehensive plans, future land use maps, and zoning regulations. For example, zoning codes may be changed to better provide for appropriate land uses in high-hazard areas.
- **Update emergency operations and response plans.** Emergency managers can identify low-risk areas for potential evacuation and sheltering and can help first responders avoid areas of high-depth flood water. Risk assessment results may reveal vulnerable areas, facilities, and infrastructure for which planning for continuity of operations plans (COOP), continuity of government (COG) plans, and emergency operations plans (EOP) would be essential.
- **Develop hazard mitigation projects.** Local officials (e.g., planners and public works officials) can use flood risk information to re-evaluate and prioritize mitigation actions in local hazard mitigation plans.
- **Communicate flood risk.** Local officials can use the information in this report to communicate with property owners, business owners, and other citizens about flood risks, changes since the last FIRM, and areas of mitigation interest. The report layout allows community information to be extracted in a fact sheet format.
- **Inform the modification of development standards.** Floodplain managers, planners, and public works officials can use information in this report to support the adjustment of development standards for certain locations. For example, heavily developed areas tend to increase floodwater runoff because paved surfaces cannot absorb water, indicating a need to adopt or revise standards that provide for appropriate stormwater retention.

FEMA in collaboration with the American Planning Association has released the publication, "Integrating Hazard Mitigation into Local Planning." This guide explains how hazard mitigation can be incorporated into several different types of local planning programs. For more information, go to [www.planning.org](http://www.planning.org) or <http://www.fema.gov/library>.

The Flood Risk Database, Flood Risk Map, and Flood Risk Report are "non-regulatory" Flood Risk products. They are available and intended for community use but are neither mandatory nor tied to the regulatory development and insurance requirements of the National Flood Insurance Program (NFIP). They may be used as regulatory products by communities if authorized by state and local enabling authorities.

### 1.3 Sources of Flood Risk Assessment Data Used

To assess potential community losses, or the consequences portion of the “risk” equation, the following data is typically collected for analysis and inclusion in a Flood Risk Project:

- Information about local assets or resources at risk of flooding
- Information about the physical features and human activities that contribute to that risk
- Information about where the risk is most severe

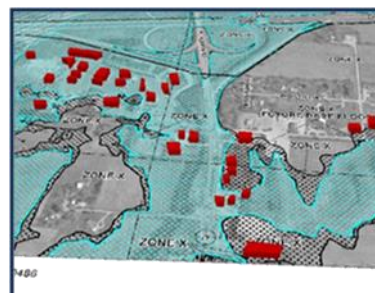
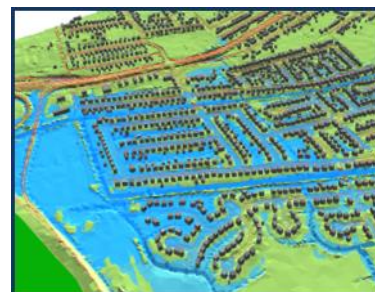
For most Flood Risk Projects, FEMA uses the following sources of flood risk information to develop this report:

- Hazus-estimated flood loss information
- New engineering analyses (e.g., coastal, hydrologic, and/or hydraulic modeling) to develop new flood boundaries
- Locally supplied data (see Section 7 for a description)
- Sources identified during the Discovery process

### 1.4 Related Resources

For a more comprehensive picture of flood risk, FEMA recommends that state and local officials use the information provided in this report in conjunction with other sources of flood risk data, such as those listed below.

- **FIRMs and FIS Reports.** This information indicates areas with specific flood hazards by identifying the limit and extent of the 1-percent-annual-chance floodplain and the 0.2-percent-annual-chance floodplain. FIRMs and FIS Reports do not identify all floodplains in a Flood Risk Project. The FIS Report includes summary information regarding other frequencies of flooding, as well as flood profiles for riverine sources of flooding. In rural areas and areas for which flood hazard data are not available, the 1-percent-annual-chance floodplain may not be identified. In addition, the 1-percent-annual-chance floodplain may not be identified for flooding sources with very small drainage areas (less than 1 square mile).
- **Hazus Flood Loss Estimation Reports.** Hazus can be used to generate reports, maps and tables on potential flood damage that can occur based on new/proposed mitigation projects or future development patterns and practices. Hazus can also run specialized risk assessments, such as what happens when a dam or levee fails. Flood risk assessment tools are available through other agencies as well, including the



FEMA data can be leveraged to identify and measure vulnerability by including local building information (i.e. building type). The examples above show various ways to display flooding intersecting with buildings.

National Oceanic and Atmospheric Administration (NOAA) and the U.S. Army Corps of Engineers (USACE). Other existing watershed reports may have a different focus, such as water quality, but may also contain flood risk and risk assessment information. See Section 6 for additional resources.

- **Flood or multi-hazard mitigation plans.** Local hazard mitigation plans include risk assessments that contain flood risk information and mitigation strategies that identify community priorities and actions to reduce flood risk. This report was informed by any existing mitigation plans in the Flood Risk Project.
- **FEMA Map Service Center (MSC).** The MSC has useful information, including fly sheets, phone numbers, data, etc. Letters of Map Change are also available through the MSC. The user can view FIRM databases and the National Flood Hazard Layer (NFHL) Database.



## 2 Flood Risk Analysis

### 2.1 Overview

Flood hazard identification uses FIRMs, and FIS Reports identify where flooding can occur along with the probability and depth of that flooding. Flood risk assessment is the systematic approach to identifying how flooding impacts the environment. In hazard mitigation planning, flood risk assessments serve as the basis for mitigation strategies and actions by defining the hazard and enabling informed decision making. Fully assessing flood risk requires the following:

- Identifying the flooding source and determining the flood hazard occurrence probability
- Developing a complete profile of the flood hazard including historical occurrence and previous impacts
- Inventorying assets located in the identified flood hazard area
- Estimating potential future flood losses caused by exposure to the flood hazard area

Flood risk analyses are different methods used in flood risk assessment to help quantify and communicate flood risk.

Flood risk analysis can be performed on a large scale (state, community) level and on a very small scale (parcel, census block). Advantages of large-scale flood risk analysis, especially at the watershed level, include identifying how actions and development in one community can affect areas up- and downstream. On the parcel or census block level, flood risk analysis can provide actionable data to individual property owners so they can take appropriate mitigation steps.

### 2.2 Analysis of Risk

The FRR, FRM, and FRD contain a variety of flood risk analysis information and data to help describe and visualize flood risk within the project area. Depending on the scope of the Flood Risk Project for this project area, this information may include some or all of the following elements:

- Changes Since Last FIRM
- Flood Depth and Analysis Grids
- Flood Risk Assessments
- Areas of Mitigation Interest



Flooding impacts non-populated areas too, such as agricultural lands and wildlife habitats.

State and Local Hazard Mitigation Plans are required to have a comprehensive all-hazard risk assessment. The flood risk analyses in the FRR, FRM, and FRD can inform the flood hazard portion of a community's or state's risk assessment. Further, data in the FRD can be used to develop information that meets the requirements for risk assessments as it relates to the hazard of flood in hazard mitigation plans.



### 2.2.1 Changes Since Last FIRM

The Changes Since Last FIRM (CSLF) dataset, stored in the FRD and shown in Section 3 of this report, illustrates where changes to flood risk may have occurred since the last FIRM was published for the subject area. Communities can use this information to update their mitigation plans, specifically quantifying “what is at risk” and identifying possible mitigation activities.

The CSLF dataset identifies changes in the Special Flood Hazard Area (SFHA) and floodway boundary changes since the previous FIRM was developed. These datasets quantify land area increases and decreases to the SFHA and floodway, as well as areas where the flood zone designation has changed (e.g., Zone A to AE, AE to VE, shaded Zone X protected by levee to Zone AE for de-accredited levees).

The CSLF dataset is created in areas that were previously mapped using digital FIRMs. The CSLF dataset for this project area includes:

- **Floodplain and/or Floodway Boundary Changes:** Any changes to the existing floodplain or floodway boundaries are depicted in this dataset
- **Floodplain Designation Changes:** This includes changed floodplain designations (e.g., Zone A to Zone AE).

CSLF data can be used to communicate changes in the physical flood hazard area (size, location) as part of the release of new FIRMs. It can also be used in the development or update of hazard mitigation plans to describe changes in hazard as part of the hazard profile.

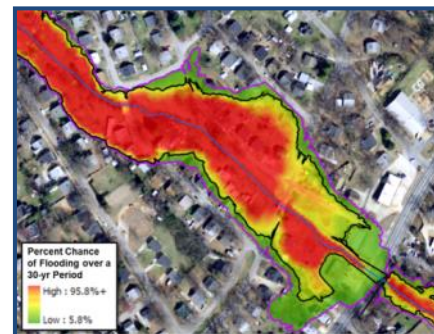
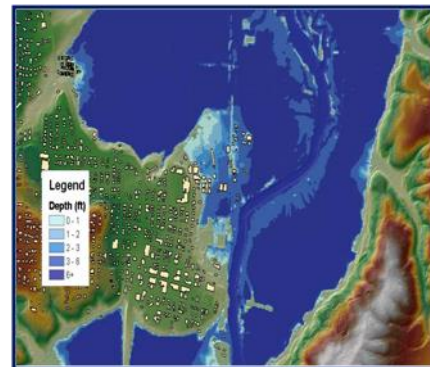
CSLF data is shown in the FRR, and underlying data is stored in the FRD.

## 2.2.2 Flood Depth and Analysis Grids

Grids are FEMA datasets provided in the FRD to better describe the risk of the flood hazard. Much like the pixels in a photo or graphic, a grid is made up of square cells, where each grid cell stores a value representing a particular flood characteristic (elevation, depth, velocity, etc.) While the FIRM and FIS Report describe “what” is at risk by identifying the hazard areas, water surface, flood depth, and other analysis grids can help define “how bad” the risk is within those identified areas. These grids are intended to be used by communities for additional analysis, enhanced visualization, and communication of flood risks for hazard mitigation planning and emergency management. The Flood Depth and Analysis Grids provide an alternative way to visualize how a particular flood characteristic (depth, velocity, etc.) vary within the floodplain. Since they are derived from the engineering modeling results, they are typically associated with a particular frequency-based flooding event (e.g., 1-percent-annual-chance event). Grids provided in the FRD for this project area include the following:

- **Flood Depth Grids (for the calculated flood frequencies included in the FIS Report):** Flood Depth Grids are created for each flood frequency calculated during the course of a Flood Risk Project. These grids communicate flood depth as a function of the difference between the calculated water surface elevation and the ground. Five grids will normally be delivered for riverine areas for the standard flood frequencies (10-, 4-, 2-, 1-, and 0.2-percent-annual-chance).

Depth grids form the basis for flood risk assessments (as presented in a table in Section 3 of this report) and are used to calculate potential flood losses for display on the FRM and for tabular presentation in this report. Depth grids may also be used for a variety of ad-hoc risk visualization and mitigation initiatives.



Grid data can make flood mapping more informative. The top image is a flood depth grid showing relative depths of water in a scenario flood event. The bottom image is a percent annual chance of flooding grid, which shows inundation areas of various frequency floods.

- **Percent Annual Chance of Flooding Grid:** This is a grid dataset that represents the percent annual chance of flooding for locations along a flooding source. This grid uses the five standard flood frequencies.
- **Percent Chance of Flooding over a 30-Year Time Period Grid:** This is a grid dataset that represents the estimated likelihood of flooding at least once within a 30-year period, which is the average lifespan for a home mortgage, for all locations within the extent of the 1-percent-annual-chance and 0.2-percent-annual-chance floodplain.

Grid data can be used to communicate the variability of floodplains, such as where floodplains are particularly deep or hazardous, where residual risks lie behind levees, and where losses may be great after a flood event. For mitigation planning, grid data can inform the hazard profile and vulnerability analysis (what is at risk for different frequencies) and can be used for preliminary benefit-cost analysis screening. For floodplain management, higher regulatory standards can be developed in higher hazard flood prone areas (i.e., 10-percent-annual-chance floodplains or deep floodplains).

Grid data is stored in the FRD, and a list of available grid data is provided in the FRR.

### 2.2.3 Flood Risk Assessments

Flood risk assessment results reported in the FRR were developed using a FEMA flood loss estimation tool, Hazus. Hazus ([www.fema.gov/hazus](http://www.fema.gov/hazus)) is a nationally-applicable and standardized risk assessment tool that estimates potential losses from earthquakes, floods, and hurricanes. It uses GIS technology to estimate physical, economic, and social impacts of disasters. Hazus can be used to help individuals and communities graphically visualize the areas where flood risk is highest. Some benefits of using Hazus include the following:

- Outputs that can enhance state and local mitigation plans and help screen for cost-effectiveness in FEMA mitigation grant programs
- Analysis refinement through updating inventory data and integrating data produced using other flood models
- Widely available support documents and networks (Hazus Users Groups)



Hazus is a loss estimation methodology developed by FEMA for flood, wind, and earthquake hazards. The methodology and data established by Hazus can also be used to study other hazards.

Files from the FRD can be imported into Hazus to develop other risk assessment information including:

- Debris generated after a flood event
- Dollar loss of the agricultural products in a study region
- Utility system damages in the region
- Vehicle loss in the study region

- Damages and functionality of lifelines such as highway and rail bridges, potable water, and wastewater facilities

### Scenario-Based Flood Loss Estimates:

Scenario-based flood losses have been calculated using Hazus for the 10-, 4-, 2-, 1-, and 0.2-percent-annual-chance flood events. In this report, these losses are expressed in dollar amounts and are provided for the Flood Risk Project area only, even though results are shown for the entire watershed and at the local jurisdiction level.

Loss estimates are based on best available data, and the methodologies applied result in an approximation of risk. These estimates should be used to understand relative risk from flood and potential losses. Uncertainties are inherent in any loss estimation methodology, arising in part from approximations and simplifications that are necessary for a comprehensive analysis (e.g., incomplete inventories, demographics, or economic parameters).

Flood loss estimates in this report are being provided at the project and community levels for multiple flood frequencies, and include the following:

- **Residential Asset Loss:** These include direct building losses (estimated costs to repair or replace the damage caused to the building) for all classes of residential structures including single family, multi-family, manufactured housing, group housing, and nursing homes. This value also includes content losses.
- **Commercial Asset Loss:** These include direct building losses for all classes of commercial buildings including retail, wholesale, repair, professional services, banks, hospitals, entertainment, and parking facilities. This value also includes content and inventory losses.
- **Other Asset Loss:** This includes losses for facilities categorized as industrial, agricultural, religious, government, and educational. This value also includes content and inventory losses.
- **Business Disruption:** This includes the losses associated with the inability to operate a business due to the damage sustained during the flood. Losses include inventory, income, rental income, wage, and direct output losses, as well as relocation costs.
- **Annualized Losses:** Annualized losses are calculated by taking losses from multiple events over different frequencies and expressing the long-term average by year. This factors in historical patterns of frequent smaller floods with infrequent but larger events to provide a balanced presentation of flood damage.

Flood risk assessment data can be used in many ways to support local decision making and explanation of flood risk. For mitigation planning purposes, loss data can be used to help meet requirements to develop loss information for the hazard of flood. Also, the FRM can show where flood risk varies by geographic location. For emergency management, risk assessment data can help forecast losses based on predicted events, and resources can be assigned accordingly. Loss information can support floodplain management efforts, including those to adopt higher regulatory standards. Awareness of at-risk essential facilities and infrastructure also encourages mitigation actions to protect citizens from service disruption should flooding occur.

Flood risk assessment loss data is summarized in the FRR and on the FRM and stored in the FRD.

- **Loss Ratio:** The loss ratio expresses the scenario losses divided by the total building value for a local jurisdiction and can be a gauge to determine overall community resilience as a result of a scenario event. For example, a loss ratio of 5 percent for a given scenario would indicate that a local jurisdiction would be more resilient and recover more easily from a given event, versus a loss ratio of 75 percent which would indicate widespread losses. An annualized loss ratio uses the annualized loss data as a basis for computing the ratio. Loss ratios are not computed for business disruption. These data are presented in the FRR.

### 3 Flood Risk Analysis Results

The following pages provide summary flood risk results for the Flood Risk Project as follows:

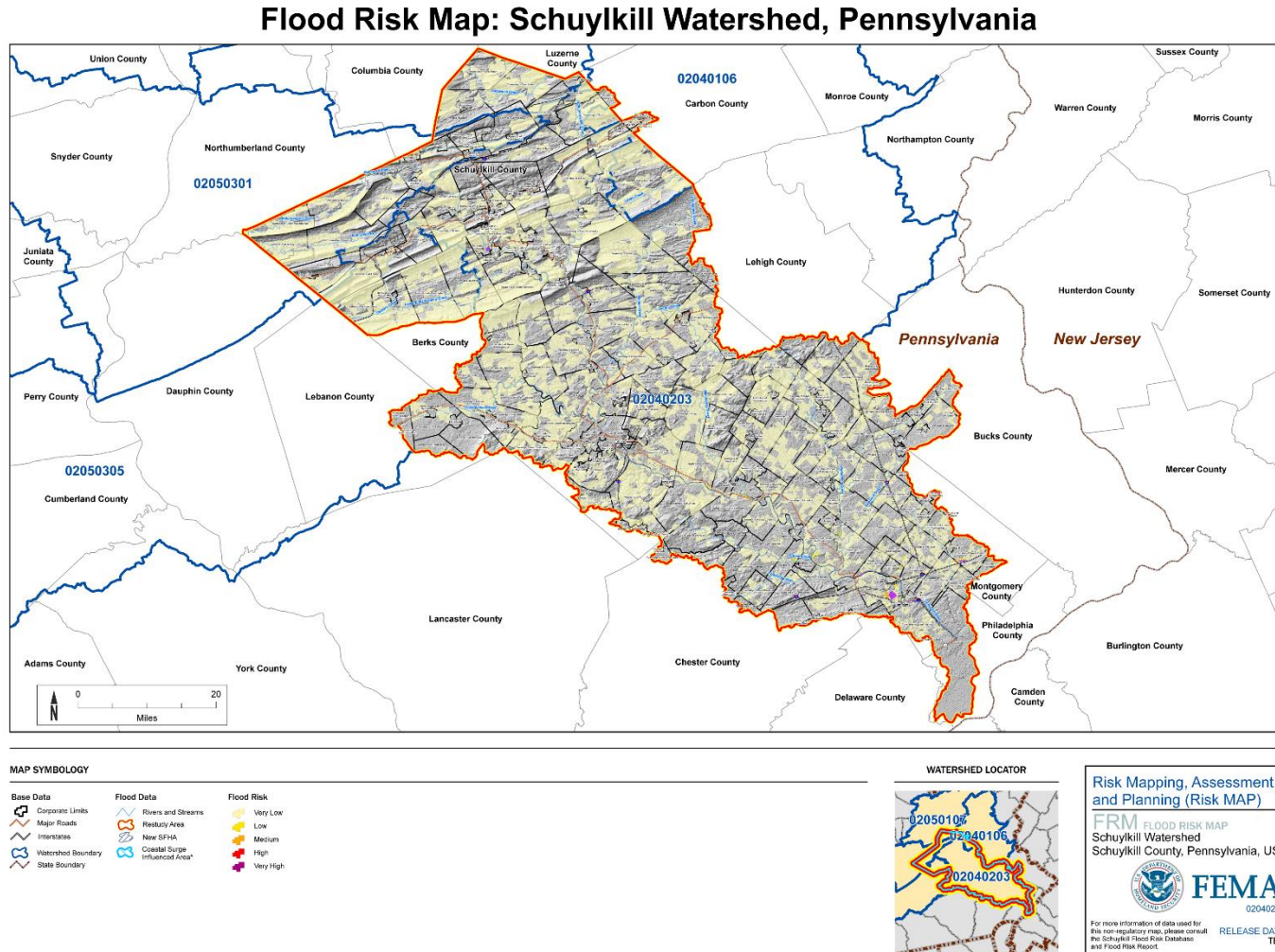
- **Flood Risk Map.** Within the Flood Risk Project the FRM displays base data reflecting community boundaries, major roads, and stream lines; potential flood risk assessment loss estimates; new Flood Risk Project areas; and graphics and text that promote access and usage of additional data available through the FRD, FIRM, and National Flood Hazard Layer and viewers (desktop or FEMA website, etc.). This information can be used to assist in Flood Risk Project-level planning as well as for developing mitigation actions within each jurisdiction located within the Flood Risk Project.
 

The FRM provides a graphical overview of the Flood Risk Project which highlights areas of risk that should be noted, based on potential losses, exposed facilities, etc., based on data found in the FRD. Refer to the data in the FRD to conduct additional analyses.
- **Flood Risk Project Summary.** Within the Flood Risk Project area, summary data for some or all of the following datasets are provided for the entire project area and also on a jurisdiction by jurisdiction basis:
  - **Changes Since Last FIRM.** This is a summary of where the floodplain and flood zones have increased or decreased (only analyzed for areas that were previously mapped using digital FIRMs).
  - **Flood Depth and Analysis Grids.** A general discussion of the data provided in the FRD, including coastal, dam, and levee analysis grids if furnished as part of the project.
  - **Flood Risk Assessments.** A loss estimation of potential flood damages using different flood scenarios.
  - **Areas of Mitigation Interest.** A description of areas that may benefit from mitigation or additional risk analysis.



### 3.1 Flood Risk Map

The Flood Risk Map for this Flood Risk Project is shown below. In addition to this reduced version of the map, a full size version is available within the FRD.





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## 3.2 Schuylkill Watershed Flood Risk Project Area Summary

The Schuylkill Watershed contains parts of eight counties in Pennsylvania (Berks, Bucks, Chester, Lebanon, Lehigh, Montgomery, Philadelphia and Schuylkill Counties).

### 3.2.1 Overview

The Schuylkill Watershed, located in Pennsylvania, includes the following communities in Schuylkill County:

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Ashland	420765	2796	99	1.6	99	Y	10	Y
Borough of Auburn	420766	741	100	1.6	100	Y	10	Y
Borough of Coaldale	420768	2281	100	2.2	100	Y	10	Y
Borough of Cressona	420769	1651	100	1	100	Y	10	Y
Borough of Deer Lake	422640	687	100	0.5	100	Y	10	Y
Borough of Frackville	420771	3805	100	0.6	100	Y	10	Y
Borough of Gilberton	421007	769	100	1.4	100	Y	10	Y
Borough of Girardville	420772	1519	100	0.5	100	Y	10	Y
Borough of Gordon	420773	763	100	0.6	100	Y	10	Y
Borough of Landingville	420774	159	100	0.8	100	Y	10	Y
Borough of Mahanoy City	420775	4162	100	0.5	100	Y	10	Y
Borough of Mcadoo	420776	2300	100	0.4	100	Y	10	Y
Borough of Mechanicsville	421994	457	100	0.3	100	Y	10	Y
Borough of Middleport	420777	405	100	0.4	100	Y	10	Y
Borough of Minersville	420778	4397	100	0.7	100	Y	10	Y
Borough of Mount Carbon	421995	91	100	0.1	100	Y	10	Y
Borough of New Philadelphia	420779	1085	100	1.5	100	Y	10	Y
Borough of New Ringgold	421996	276	100	0.8	100	Y	10	Y
Borough of Orwigsburg	421204	3099	100	2.2	100	Y	10	Y

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Palo Alto	420780	1032	100	1	100	Y	10	Y
Borough of Pine Grove	420781	2186	100	1.1	100	Y	10	Y
Borough of Port Carbon	420783	1889	100	0.7	100	Y	10	Y
Borough of Port Clinton	420784	326	100	0.8	100	Y	10	Y
Borough of Ringtown	422505	818	100	0.5	100	Y	10	Y
Borough of Schuylkill Haven	420787	5437	100	1.4	100	Y	10	Y
Borough of Shenandoah	420788	5071	100	1.6	100	Y	10	Y
Borough of St. Clair	420786	3004	100	1.2	100	Y	10	Y
Borough of Tamaqua	425389	7107	100	10.3	100	Y	10	Y
Borough of Tower City	420790	1346	100	0.3	100	Y	10	Y
Borough of Tremont	420791	1752	100	0.8	100	Y	10	Y
City of Pottsville	420785	14324	100	4.1	100	Y	10	Y
Township of Barry	421997	932	100	17	100	Y	10	Y
Township of Blythe	420767	924	100	28.5	100	Y	10	Y
Township of Branch	421998	1840	100	11.7	100	Y	10	Y
Township of Butler	421999	5224	100	26.9	100	Y	10	Y
Township of Cass	422000	1958	100	13.5	100	Y	10	Y
Township of Delano	422001	445	100	8.3	100	Y	10	Y
Township of East Brunswick	422002	1793	100	31	100	Y	10	Y
Township of East Norwegian	422003	863	100	4	100	Y	10	Y
Township of East Union	422004	1605	100	25.5	100	Y	10	Y
Township of Eldred	422005	758	100	22.3	100	Y	10	Y
Township of Foster	422006	251	100	12.7	100	Y	10	Y
Township of Frailey	422007	429	100	9.3	100	Y	10	Y

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Hegin	422008	3516	100	32.3	100	Y	10	Y
Township of Hubley	422009	854	100	13.1	100	Y	10	Y
Township of Kline	422010	1438	100	12.4	100	Y	10	Y
Township of Mahanoy	422011	3152	100	21	100	Y	10	Y
Township of New Castle	422012	414	100	12.7	100	Y	10	Y
Township of North Manheim	422013	3770	100	20.7	100	Y	10	Y
Township of North Union	422014	1476	100	20.8	100	Y	10	Y
Township of Norwegian	422015	2310	100	5.8	100	Y	10	Y
Township of Pine Grove	420782	4123	100	37.7	100	Y	10	Y
Township of Porter	422016	2176	100	17.9	100	Y	10	Y
Township of Reilly	422017	726	100	16	100	Y	10	Y
Township of Rush	422018	3412	100	23.4	100	Y	10	Y
Township of Ryan	422019	2459	100	17.6	100	Y	10	Y
Township of Schuylkill	422020	1129	100	10.3	100	Y	10	Y
Township of South Manheim	422022	2507	100	21.2	100	Y	10	Y
Township of Tremont	422023	280	100	24.1	100	Y	10	Y
Township of Union	422024	1273	100	22.1	100	Y	10	Y
Township of Upper Mahantango	422025	655	100	14.8	100	Y	10	Y
Township of Walker	422026	1054	100	22.7	100	Y	10	Y
Township of Washington	422506	3033	100	30.9	100	Y	10	Y
Township of Wayne	422027	5113	100	34.9	100	Y	10	Y
Township of West Brunswick	422028	3327	100	30.3	100	Y	10	Y
Township of West Mahanoy	420792	2872	100	10.4	100	Y	10	Y
Township of West Penn	422029	4442	100	58	100	Y	10	Y

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Schuylkill County	-	148268	100	783.3	100	-	-	Y

Community-specific results are provided on subsequent pages. Data provided below and on subsequent pages only includes areas located within the Schuylkill Watershed Flood Risk Project and do not necessarily represent community-wide totals.

Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

### 3.2.2 Flood Risk Datasets

As a part of this Flood Risk Project, flood risk datasets were created for inclusion in the Flood Risk Database. Those datasets are summarized for this Flood Risk Project below:

- **Changes Since Last FIRM**

- Special Flood Hazard Area (SFHA) boundaries within the Schuylkill Watershed were updated due to new engineering analysis performed within the Flood Risk Project. The data in this section reflects a comparison between the effective FIRM(s) and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHA for the watershed.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	14.9	0	0	0
Within Floodway	1.7	1.7	0	1.7

*\*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

- Evidence of actual flood losses can be one of the most compelling factors for increasing a community's flood risk awareness. During this Risk MAP project, FEMA confirmed several areas within this watershed as having mitigation potential and encourages the communities within the watershed to continue working with the State Hazard Mitigation Officer to further identify and mitigate these high-risk areas and

structures. Specific areas within each jurisdiction are detailed within the individual community summaries.

- **Flood Depth and Analysis Grids**

- The FRD contains datasets in the form of depth grids for the entire Flood Risk Project that can be used for additional analysis, enhanced visualization, and communication of flood risks for hazard mitigation planning and emergency management. The data provided within the FRD should be used to further isolate areas where flood mitigation potential is high and may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation. Section 2 of the FRR provides general information regarding the development of and potential uses for this data.

- **Flood Risk Results**

- The Schuylkill Watershed flood risk analysis incorporates results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Potential losses were estimated as well as potential loss ratios for multiple scenarios. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.



## Schuylkill County: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$183,999,426,485	65%	\$43,400,000	<1%	\$76,800,000	<1%	\$784,100,000	<1%	\$160,000,000	<1%	N/A	N/A
Commercial Building & Contents	\$59,297,992,186	21%	\$23,900,000	<1%	\$40,300,000	<1%	\$691,900,000	1%	\$82,000,000	<1%	N/A	N/A
Other Building & Contents	\$39,161,065,380	14%	\$85,800,000	<1%	\$133,600,000	<1%	\$639,600,000	2%	\$249,600,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$282,458,484,051	100%	\$153,200,000	<1%	\$250,700,000	<1%	\$2,115,600,000	1%	\$491,600,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$8,500,000	N/A	\$13,000,000	N/A	\$76,700,000	N/A	\$22,900,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$282,458,484,051	100%	\$161,700,000	<1%	\$263,700,000	<1%	\$2,192,300,000	1%	\$514,500,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

*The figures in this table only represent information within the Schuylkill County portion of the watershed.*

## Schuylkill County: Estimated Potential Losses for Flood Event Scenarios – TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$183,999,426,485	65%	N/A	N/A
Commercial Building & Contents	\$59,297,992,186	21%	N/A	N/A
Other Building & Contents	\$39,161,065,380	14%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$282,458,484,051	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$282,458,484,051	100%	\$9,535,400,000	3%

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

*The figures in this table only represent information within the Schuylkill County portion of the watershed.*

## Schuylkill County Community Level Rankings - TEIF 1.0

Community Name	CID	TEIF 2010 (\$)	Statewide Rank TEIF 2010	AAL 2000 (\$)	Statewide Rank AAL 2000
Borough of Ashland	420765	7,400,000	1618	1,300,000	229
Borough of Auburn	420766	5,600,000	1803	200,000	1063
Borough of Coaldale	420768	NA	NA	NA	NA
Borough of Cressona	420769	24,700,000	748	5,800,000	38
Borough of Deer Lake	422640	12,300,000	1250	0	2026
Borough of Frackville	420771	68,000,000	275	1,000,000	307
Borough of Gilberton	421007	24,700,000	750	50,000	1570
Borough of Girardville	420772	2,000,000	2215	100,000	1259
Borough of Gordon	420773	400,000	2400	2,000,000	157
Borough of Landingville	420774	11,700,000	1290	0	2026
Borough of Mahanoy City	420775	11,000,000	1353	300,000	846
Borough of Mcadoo	420776	32,700,000	588	50,000	1568
Borough of Mechanicsville	421994	20,800,000	854	200,000	961
Borough of Middleport	420777	4,100,000	1954	500,000	523
Borough of Minersville	420778	80,500,000	214	900,000	345
Borough of Mount Carbon	421995	61,600,000	311	1,600,000	188
Borough of New Philadelphia	420779	57,600,000	337	1,100,000	277
Borough of New Ringgold	421996	13,300,000	1191	400,000	683
Borough of Orwigsburg	421204	18,600,000	923	500,000	551
Borough of Palo Alto	420780	106,200,000	146	1,200,000	254
Borough of Pine Grove	420781	62,700,000	302	7,400,000	22
Borough of Port Carbon	420783	97,900,000	165	0	2026
Borough of Port Clinton	420784	1,100,000	2310	30,000	1721

Community Name	CID	TEIF 2010 (\$)	Statewide Rank TEIF 2010	AAL 2000 (\$)	Statewide Rank AAL 2000
Borough of Ringtown	422505	31,000,000	620	30,000	1719
Borough of Schuylkill Haven	420787	3,400,000	2050	0	2026
Borough of Shenandoah	420788	43,700,000	450	700,000	406
Borough of St. Clair	420786	27,600,000	681	0	2026
Borough of Tamaqua	425389	1,000,000	2325	0	2026
Borough of Tower City	420790	300,000	2409	0	1966
Borough of Tremont	420791	4,400,000	1914	10,000	1836
City of Pottsville	420785	7,600,000	1592	40,000	1631
Township of Barry	421997	10,100,000	1407	80,000	1370
Township of Blythe	420767	27,200,000	692	700,000	409
Township of Branch	421998	14,600,000	1125	50,000	1573
Township of Butler	421999	4,000,000	1967	0	2026
Township of Cass	422000	7,700,000	1582	60,000	1490
Township of Delano	422001	4,600,000	1893	80,000	1347
Township of East Brunswick	422002	3,000,000	2082	40,000	1625
Township of East Norwegian	422003	6,500,000	1704	80,000	1369
Township of East Union	422004	200,000	2416	0	2026
Township of Eldred	422005	4,100,000	1959	0	2026
Township of Foster	422006	25,400,000	727	600,000	476
Township of Frailey	422007	10,300,000	1394	200,000	1093
Township of Hegins	422008	3,800,000	1993	0	2026
Township of Hubley	422009	4,200,000	1937	10,000	1859
Township of Kline	422010	800,000	2342	0	2026
Township of Mahanoy	422011	38,900,000	499	300,000	819
Township of New Castle	422012	7,600,000	1591	80,000	1340

<b>Community Name</b>	<b>CID</b>	<b>TEIF 2010 (\$)</b>	<b>Statewide Rank TEIF 2010</b>	<b>AAL 2000 (\$)</b>	<b>Statewide Rank AAL 2000</b>
Township of North Manheim	422013	4,200,000	1941	10,000	1834
Township of North Union	422014	11,000,000	1350	100,000	1188
Township of Norwegian	422015	6,900,000	1671	0	2026
Township of Pine Grove	420782	12,700,000	1226	20,000	1748
Township of Porter	422016	2,600,000	2133	0	2026
Township of Reilly	422017	1,900,000	2231	10,000	1916
Township of Rush	422018	14,300,000	1139	40,000	1582
Township of Ryan	422019	3,400,000	2041	20,000	1778
Township of Schuylkill	422020	4,100,000	1955	10,000	1828
Township of South Manheim	422022	21,200,000	841	400,000	627
Township of Tremont	422023	8,200,000	1553	0	2026
Township of Union	422024	13,400,000	1186	0	2026
Township of Upper Mahantango	422025	57,200,000	344	1,100,000	292
Township of Walker	422026	33,500,000	570	300,000	705
Township of Washington	422506	800,000	2345	0	2026
Township of Wayne	422027	25,800,000	716	200,000	890
Township of West Brunswick	422028	4,400,000	1920	70,000	1395
Township of West Mahanoy	420792	159,800,000	86	2,900,000	108
Township of West Penn	422029	24,700,000	748	5,800,000	38
<b>Schuylkill County</b>		<b>1,427,000,000</b>	<b>20</b>	<b>38,670,000</b>	<b>15</b>

### 3.3 Communities

The following sections provide an overview of the community's floodplain management program as of the date of this publication, as well as summarize the flood risk analysis performed for each project area in the Schuylkill Watershed.

#### 3.3.1 Borough of Ashland Summary (CID 420765)

The following pages include Flood Risk data for the Borough of Ashland.

##### 3.3.1.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Ashland	420765	2,796	99	1.6	99	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 9 policies totaling approximately \$872,500

Data provided below only includes areas in the Borough of Ashland that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

##### 3.3.1.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids



- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.
- **Flood Risk Results**
  - The Borough of Ashland flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Ashland: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$370,506,234	60%	\$800,000	<1%	\$1,600,000	<1%	\$2,000,000	1%	\$4,200,000	1%	N/A	N/A
Commercial Building & Contents	\$77,782,745	13%	\$300,000	<1%	\$800,000	1%	\$1,200,000	2%	\$2,400,000	3%	N/A	N/A
Other Building & Contents	\$169,359,248	27%	\$3,300,000	2%	\$5,100,000	3%	\$6,000,000	4%	\$9,100,000	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$617,648,228	100%	\$4,500,000	1%	\$7,500,000	1%	\$9,200,000	1%	\$15,700,000	3%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$500,000	N/A	\$800,000	N/A	\$1,000,000	N/A	\$1,500,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$617,648,228	100%	\$5,000,000	1%	\$8,300,000	1%	\$10,200,000	2%	\$17,100,000	3%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Ashland: Estimated Potential Losses for Flood Event Scenarios – TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$370,506,234	60%	N/A	N/A
Commercial Building & Contents	\$77,782,745	13%	N/A	N/A
Other Building & Contents	\$169,359,248	27%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$617,648,228	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$617,648,228	100%	\$7,300,000	1%

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.2 Borough of Auburn Summary (CID 420766)

The following pages include Flood Risk data for the Borough of Auburn.

#### 3.3.2.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Auburn	420766	741	100	1.6	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 4 policies totaling approximately \$760,400.

Data provided below only includes areas in the Borough of Auburn that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.2.2 Community Analyses and Results

- **Changes Since Last FIRM**

Special Flood Hazard Area (SFHA) boundaries within the Borough of Auburn were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.3	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Auburn flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Auburn: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$72,415,738	70%	\$20,000	<1%	\$60,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A
Commercial Building & Contents	\$11,285,541	11%	\$200,000	2%	\$300,000	3%	\$400,000	4%	\$500,000	4%	N/A	N/A
Other Building & Contents	\$19,929,261	19%	\$100,000	<1%	\$100,000	1%	\$300,000	1%	\$200,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$103,630,540	100%	\$300,000	<1%	\$600,000	1%	\$900,000	1%	\$800,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$20,000	N/A	\$50,000	N/A	\$20,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$103,630,540	100%	\$400,000	<1%	\$600,000	1%	\$900,000	1%	\$900,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



## Borough of Auburn: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$72,415,738	70%	N/A	N/A
Commercial Building & Contents	\$11,285,541	11%	N/A	N/A
Other Building & Contents	\$19,929,261	19%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$103,630,540	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$103,630,540	100%	\$5,600,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Coaldale Summary (CID 420768)

The following pages include Flood Risk data for the Borough of Coaldale.

### 3.3.2.3 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Coaldale	420768	2,281	100	2.2	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Borough of Coaldale that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

### 3.3.2.4 Community Analyses and Results

- **Changes Since Last FIRM**

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.
- **Flood Risk Results**
  - The Borough of Coaldale flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Coaldale: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$252,289,568	52%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$30,000	<1%	N/A	N/A
Commercial Building & Contents	\$206,438,099	42%	\$0	0%	\$0	0%	\$0	0%	\$0	<1%	N/A	N/A
Other Building & Contents	\$28,728,631	6%	\$0	0%	\$0	0%	\$0	0%	\$0	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$487,456,297	100%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$40,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$487,456,297	100%	\$10,000	0%	\$20,000	<1%	\$20,000	<1%	\$40,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Coaldale: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$252,289,568	52%	N/A	N/A
Commercial Building & Contents	\$206,438,099	42%	N/A	N/A
Other Building & Contents	\$28,728,631	6%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$487,456,297	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$487,456,297</b>	<b>100%</b>	<b>\$300,000</b>	<b>0%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.3 Borough of Cressona Summary (CID 420769)

The following pages include Flood Risk data for the Borough of Cressona.

#### 3.3.3.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Cressona	420769	1,651	100	1.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 18 policies totaling approximately \$2,012,300.

Data provided below only includes areas in the Borough of Cressona that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.3.2 Community Analyses and Results

- **Changes Since Last FIRM**

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.
- **Flood Risk Results**
  - The Borough of Cressona flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.



## Borough of Cressona: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$215,163,006	23%	\$1,100,000	1%	\$2,700,000	1%	\$3,600,000	2%	\$5,900,000	3%	N/A	N/A
Commercial Building & Contents	\$56,588,511	6%	\$400,000	1%	\$1,300,000	2%	\$2,100,000	4%	\$3,500,000	6%	N/A	N/A
Other Building & Contents	\$681,770,733	71%	\$61,800,000	9%	\$93,400,000	14%	\$104,600,000	15%	\$163,500,000	24%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$953,522,250	100%	\$63,300,000	7%	\$97,400,000	10%	\$110,300,000	12%	\$172,900,000	18%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$4,800,000	N/A	\$6,500,000	N/A	\$7,100,000	N/A	\$10,000,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$953,522,250	100%	\$68,100,000	7%	\$103,900,000	11%	\$117,400,000	12%	\$182,900,000	19%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Cressona: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$215,163,006	23%	N/A	N/A
Commercial Building & Contents	\$56,588,511	6%	N/A	N/A
Other Building & Contents	\$681,770,733	71%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$953,522,250	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$953,522,250	100%	\$24,900,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.4 Borough of Deer Lake Summary (CID 422640)

The following pages include Flood Risk data for the Borough of Deer Lake.

#### 3.3.4.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Deer Lake	422640	687	100	0.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 4 policies totaling approximately \$800,000.

Data provided below only includes areas in the Borough of Deer Lake that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.4.2 Community Analyses and Results

- **Changes Since Last FIRM**

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.
- **Flood Risk Results**
  - The Borough of Deer Lake flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Deer Lake: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$78,551,987	81%	\$0	0%	\$0	0%	\$100,000	<1%	\$0	0%	N/A	N/A
Commercial Building & Contents	\$13,866,900	14%	\$0	0%	\$0	0%	\$40,000	<1%	\$0	0%	N/A	N/A
Other Building & Contents	\$4,489,849	5%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$96,908,735	100%	\$0	0%	\$0	0%	\$100,000	<1%	\$0	0%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$96,908,735</b>	<b>100%</b>	<b>\$0</b>	<b>0%</b>	<b>\$0</b>	<b>0%</b>	<b>\$100,000</b>	<b>&lt;1%</b>	<b>\$0</b>	<b>0%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Deer Lake: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$78,551,987	81%	N/A	N/A
Commercial Building & Contents	\$13,866,900	14%	N/A	N/A
Other Building & Contents	\$4,489,849	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$96,908,735	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$96,908,735	100%	\$4,400,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.5 Borough of Frackville Summary (CID 420771)

The following pages include Flood Risk data for the Borough of Frackville.

#### 3.3.5.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Frackville	420771	3,805	100	0.6	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 6 policies totaling approximately \$874,000.

Data provided below only includes areas in the Borough of Frackville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.5.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.



- **Flood Risk Results**

- The Borough of Frackville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Frackville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$457,403,472	61%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$164,825,781	22%	\$0	0%	\$0	0%	\$0	0%	\$10,000	<1%	N/A	N/A
Other Building & Contents	\$128,176,065	17%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$750,405,318	100%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$750,405,318	100%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Frackville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$457,403,472	61%	N/A	N/A
Commercial Building & Contents	\$164,825,781	22%	N/A	N/A
Other Building & Contents	\$128,176,065	17%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$750,405,318	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$750,405,318	100%	\$12,300,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.6 Borough of Gilberton Summary (CID 421007)

The following pages include Flood Risk data for the Borough of Gilberton.

#### 3.3.6.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Gilberton	421007	769	100	1.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 12 policies totaling approximately \$470,200.

Data provided below only includes areas in the Borough of Gilberton that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.6.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation

strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Gilberton flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Gilberton: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$90,650,335	73%	\$10,300,000	11%	\$13,500,000	15%	\$15,400,000	17%	\$21,900,000	24%	N/A	N/A
Commercial Building & Contents	\$18,507,506	15%	\$7,700,000	42%	\$9,100,000	49%	\$9,700,000	53%	\$11,000,000	60%	N/A	N/A
Other Building & Contents	\$15,426,602	12%	\$7,000,000	46%	\$7,300,000	47%	\$7,400,000	48%	\$7,700,000	50%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$124,584,442	100%	\$25,000,000	20%	\$29,900,000	24%	\$32,500,000	26%	\$40,600,000	33%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$700,000	N/A	\$800,000	N/A	\$800,000	N/A	\$900,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$124,584,442	100%	\$25,800,000	21%	\$30,700,000	25%	\$33,400,000	27%	\$41,500,000	33%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Gilberton: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$90,650,335	73%	N/A	N/A
Commercial Building & Contents	\$18,507,506	15%	N/A	N/A
Other Building & Contents	\$15,426,602	12%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$124,584,442	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$124,584,442	100%	\$43,600,000	35%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.7 Borough of Girardville Summary (CID 420772)

The following pages include Flood Risk data for the Borough of Girardville.

#### 3.3.7.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Girardville	420772	1,519	100	0.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 36 policies totaling approximately \$2,230,000.

Data provided below only includes areas in the Borough of Girardville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.7.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Girardville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Girardville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$181,023,322	82%	\$5,100,000	3%	\$8,800,000	5%	\$10,500,000	6%	\$13,900,000	8%	N/A	N/A
Commercial Building & Contents	\$20,673,407	9%	\$400,000	2%	\$600,000	3%	\$800,000	4%	\$1,000,000	5%	N/A	N/A
Other Building & Contents	\$20,358,042	9%	\$2,000,000	10%	\$3,300,000	16%	\$3,900,000	19%	\$5,000,000	24%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$222,054,771	100%	\$7,500,000	3%	\$12,800,000	6%	\$15,200,000	7%	\$19,800,000	9%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$600,000	N/A	\$700,000	N/A	\$700,000	N/A	\$700,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$222,054,771	100%	\$8,100,000	4%	\$13,400,000	6%	\$15,900,000	7%	\$20,600,000	9%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Girardville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$181,023,322	82%	N/A	N/A
Commercial Building & Contents	\$20,673,407	9%	N/A	N/A
Other Building & Contents	\$20,358,042	9%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$222,054,771	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$222,054,771	100%	\$68,000,000	31%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.8 Borough of Gordon Summary (CID 420773)

The following pages include Flood Risk data for the Borough of Gordon.

#### 3.3.8.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Gordon	420773	763	100	0.6	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 31 policies totaling approximately \$2,997,800.

Data provided below only includes areas in the Borough of Gordon that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.8.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Gordon flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Gordon: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$79,274,169	79%	\$2,800,000	4%	\$4,100,000	5%	\$4,400,000	6%	\$5,300,000	7%	N/A	N/A
Commercial Building & Contents	\$5,997,462	6%	\$100,000	2%	\$200,000	3%	\$200,000	3%	\$200,000	3%	N/A	N/A
Other Building & Contents	\$15,063,113	15%	\$1,600,000	10%	\$2,200,000	14%	\$2,300,000	15%	\$2,600,000	17%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$100,334,743	100%	\$4,500,000	5%	\$6,400,000	6%	\$6,900,000	7%	\$8,100,000	8%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$300,000	N/A	\$300,000	N/A	\$400,000	N/A	\$400,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$100,334,743	100%	\$4,800,000	5%	\$6,800,000	7%	\$7,200,000	7%	\$8,500,000	8%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Gordon: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$79,274,169	79%	N/A	N/A
Commercial Building & Contents	\$5,997,462	6%	N/A	N/A
Other Building & Contents	\$15,063,113	15%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$100,334,743	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$100,334,743	100%	\$24,700,000	25%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.9 Borough of Landingville Summary (CID 420774)

The following pages include Flood Risk data for the Borough of Landingville.

#### 3.3.9.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Landingville	420774	159	100	0.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 4 policies totaling approximately \$554,200.

Data provided below only includes areas in the Borough of Landingville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.9.2 Community Analyses and Results

- **Changes Since Last FIRM**

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.
- **Flood Risk Results**
  - The Borough of Landingville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Landingville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$19,032,963	69%	\$100,000	1%	\$200,000	1%	\$300,000	1%	\$500,000	3%	N/A	N/A
Commercial Building & Contents	\$5,296,305	19%	\$100,000	2%	\$300,000	5%	\$300,000	7%	\$700,000	12%	N/A	N/A
Other Building & Contents	\$3,136,395	12%	\$100,000	4%	\$200,000	7%	\$300,000	9%	\$600,000	19%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$27,465,663	100%	\$300,000	1%	\$700,000	3%	\$900,000	3%	\$1,700,000	6%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$20,000	N/A	\$30,000	N/A	\$50,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$27,465,663	100%	\$400,000	1%	\$700,000	3%	\$900,000	3%	\$1,800,000	7%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Landingville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$19,032,963	69%	N/A	N/A
Commercial Building & Contents	\$5,296,305	19%	N/A	N/A
Other Building & Contents	\$3,136,395	11%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$27,465,663	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$27,465,663	100%	\$2,000,000	7%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.10 Borough of Mahanoy City Summary (CID 420775)

The following pages include Flood Risk data for the Borough of Mahanoy City.

#### 3.3.10.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Mahanoy City	420775	4,162	100	0.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 2 policies totaling approximately \$553,000.

Data provided below only includes areas in the Borough of Mahanoy City that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.10.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Mahanoy City flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Mahanoy City: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$503,995,109	77%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Commercial Building & Contents	\$99,641,188	15%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$53,038,882	8%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$656,675,179	100%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$656,675,179	100%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Mahanoy City: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$503,995,109	77%	N/A	N/A
Commercial Building & Contents	\$99,641,188	15%	N/A	N/A
Other Building & Contents	\$53,038,882	8%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$656,675,179	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$656,675,179	100%	\$300,000	<1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.11 Borough of Mcadoo Summary (CID 420776)

The following pages include Flood Risk data for the Borough of Mcadoo.

#### 3.3.11.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Mcadoo	420776	2,300	100	0.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 10 policies totaling approximately \$714,000.

Data provided below only includes areas in the Borough of Mcadoo that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.11.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Mcadoo flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Mcadoo: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$258,973,043	80%	\$300,000	<1%	\$700,000	<1%	\$900,000	<1%	\$1,300,000	<1%	N/A	N/A
Commercial Building & Contents	\$44,047,881	14%	\$60,000	<1%	\$200,000	<1%	\$300,000	1%	\$500,000	1%	N/A	N/A
Other Building & Contents	\$18,743,714	6%	\$0	0%	\$10,000	<1%	\$20,000	<1%	\$40,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$321,764,638	100%	\$400,000	<1%	\$900,000	<1%	\$1,200,000	<1%	\$1,800,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$20,000	N/A	\$20,000	N/A	\$20,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$321,764,638	100%	\$400,000	<1%	\$900,000	<1%	\$1,200,000	<1%	\$1,800,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Mcadoo: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$258,973,043	80%	N/A	N/A
Commercial Building & Contents	\$44,047,881	14%	N/A	N/A
Other Building & Contents	\$18,743,714	6%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$321,764,638	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$321,764,638	100%	\$11,500,000	4%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.12 Borough of Mechanicsville Summary (CID 421994)

The following pages include Flood Risk data for the Borough of Mechanicsville.

#### 3.3.12.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Mechanicsville	421994	457	100	0.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Borough of Mechanicsville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.12.2 Community Analyses and Results

##### Changes Since Last FIRM

- Special Flood Hazard Area (SFHA) boundaries within the Borough of Middleport were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Mechanicsville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Mechanicsville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$56,888,221	80%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Commercial Building & Contents	\$10,406,842	14%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$4,071,605	6%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$71,366,668	100%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$40,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$71,366,668</b>	<b>100%</b>	<b>\$10,000</b>	<b>&lt;1%</b>	<b>\$20,000</b>	<b>&lt;1%</b>	<b>\$30,000</b>	<b>&lt;1%</b>	<b>\$40,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Mechanicsville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$56,888,221	80%	N/A	N/A
Commercial Building & Contents	\$10,406,842	15%	N/A	N/A
Other Building & Contents	\$4,071,605	6%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$71,366,668	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$71,366,668	100%	\$1,000,000	1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.13 Borough of Middleport Summary (CID 420777)

The following pages include Flood Risk data for the Borough of Middleport.

#### 3.3.13.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Middleport	420777	405	100	0.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 12 policies totaling approximately \$1,039,700.

Data provided below only includes areas in the Borough of Middleport that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.13.2 Community Analyses and Results

##### ○ Changes Since Last FIRM

Special Flood Hazard Area (SFHA) boundaries within the Borough of Middleport were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Middleport flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Middleport: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$51,487,483	85%	\$300,000	1%	\$700,000	1%	\$1,400,000	3%	\$1,900,000	4%	N/A	N/A
Commercial Building & Contents	\$6,398,291	11%	\$10,000	<1%	\$20,000	<1%	\$30,000	<1%	\$50,000	1%	N/A	N/A
Other Building & Contents	\$2,306,050	4%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$60,191,824	100%	\$300,000	1%	\$800,000	1%	\$1,400,000	2%	\$2,000,000	3%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$60,191,824</b>	<b>100%</b>	<b>\$300,000</b>	<b>1%</b>	<b>\$800,000</b>	<b>1%</b>	<b>\$1,400,000</b>	<b>2%</b>	<b>\$2,000,000</b>	<b>3%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Middleport: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$51,487,483	85%	N/A	N/A
Commercial Building & Contents	\$6,398,291	11%	N/A	N/A
Other Building & Contents	\$2,306,050	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$60,191,824	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$60,191,824	100%	\$10,900,000	18%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.14 Borough of Minersville Summary (CID 420778)

The following pages include Flood Risk data for the Borough of Minersville.

#### 3.3.14.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Minersville	420778	4,397	100	0.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 23 policies totaling approximately \$3,311,100.

Data provided below only includes areas in the Borough of Minersville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.14.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Minersville were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	-0.1	-0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Minersville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Minersville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$484,997,023	66%	\$0	0%	\$0	0%	\$1,600,000	<1%	\$10,000	<1%	N/A	N/A
Commercial Building & Contents	\$143,750,416	20%	\$0	0%	\$0	0%	\$1,400,000	1%	\$0	0%	N/A	N/A
Other Building & Contents	\$105,352,927	14%	\$0	0%	\$0	0%	\$1,100,000	1%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$734,100,365	100%	\$0	0%	\$0	0%	\$4,000,000	1%	\$10,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$1,100,000	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$734,100,365	100%	\$0	0%	\$0	0%	\$5,100,000	1%	\$10,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Minersville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$484,997,023	66%	N/A	N/A
Commercial Building & Contents	\$143,750,416	20%	N/A	N/A
Other Building & Contents	\$105,352,927	14%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$734,100,365	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$734,100,365	100%	\$32,200,000	4%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.15 Borough of Mount Carbon Summary (CID 421995)

The following pages include Flood Risk data for the Borough of Mount Carbon.

#### 3.3.15.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Mount Carbon	421995	91	100	0.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Borough of Mount Carbon that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.15.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Mount Carbon were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Mount Carbon flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Mount Carbon: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$14,910,208	81%	\$20,000	<1%	\$40,000	<1%	\$40,000	<1%	\$60,000	<1%	N/A	N/A
Commercial Building & Contents	\$3,211,515	17%	\$0	0%	\$0	0%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Other Building & Contents	\$399,615	2%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$18,521,338	100%	\$20,000	<1%	\$40,000	<1%	\$50,000	<1%	\$70,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$18,521,338</b>	<b>100%</b>	<b>\$20,000</b>	<b>&lt;1%</b>	<b>\$40,000</b>	<b>&lt;1%</b>	<b>\$50,000</b>	<b>&lt;1%</b>	<b>\$70,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Mount Carbon: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$14,910,208	81%	N/A	N/A
Commercial Building & Contents	\$3,211,515	17%	N/A	N/A
Other Building & Contents	\$399,615	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$18,521,338	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$18,521,338	100%	\$300,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.16 Borough of New Philadelphia Summary (CID 420779)

The following pages include Flood Risk data for the Borough of New Philadelphia.

#### 3.3.16.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of New Philadelphia	420779	1,085	100	1.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 11 policies totaling approximately \$829,200.

Data provided below only includes areas in the Borough of New Philadelphia that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.16.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of New Philadelphia were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of New Philadelphia flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of New Philadelphia: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$125,049,153	77%	\$100,000	<1%	\$900,000	1%	\$1,000,000	1%	\$1,800,000	1%	N/A	N/A
Commercial Building & Contents	\$22,371,343	14%	\$200,000	1%	\$800,000	3%	\$900,000	4%	\$1,800,000	8%	N/A	N/A
Other Building & Contents	\$14,834,262	9%	\$80,000	1%	\$300,000	2%	\$300,000	2%	\$900,000	6%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$162,254,758	100%	\$400,000	<1%	\$2,000,000	1%	\$2,300,000	1%	\$4,500,000	3%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$60,000	N/A	\$70,000	N/A	\$100,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$162,254,758	100%	\$400,000	<1%	\$2,000,000	1%	\$2,400,000	1%	\$4,700,000	3%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of New Philadelphia: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$125,049,153	77%	N/A	N/A
Commercial Building & Contents	\$22,371,343	14%	N/A	N/A
Other Building & Contents	\$14,834,262	9%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$162,254,758	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$162,254,758	100%	\$21,100,000	13%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.17 Borough of New Ringgold Summary (CID 421996)

The following pages include Flood Risk data for the Borough of New Ringgold.

#### 3.3.17.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of New Ringgold	421996	276	100	0.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 7 policies totaling approximately \$1,040,000.

Data provided below only includes areas in the Borough of New Ringgold that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.17.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of New Ringgold were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of New Ringgold flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of New Ringgold: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$35,244,368	94%	\$30,000	<1%	\$50,000	<1%	\$400,000	1%	\$90,000	<1%	N/A	N/A
Commercial Building & Contents	\$2,253,242	6%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$6,554	0%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$37,504,163	100%	\$30,000	<1%	\$50,000	<1%	\$400,000	1%	\$90,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$37,504,163</b>	<b>100%</b>	<b>\$30,000</b>	<b>&lt;1%</b>	<b>\$50,000</b>	<b>&lt;1%</b>	<b>\$400,000</b>	<b>1%</b>	<b>\$90,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of New Ringgold: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$35,244,368	94%	N/A	N/A
Commercial Building & Contents	\$2,253,242	6%	N/A	N/A
Other Building & Contents	\$6,554	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$37,504,163	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$37,504,163	100%	\$4,400,000	12%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.18 Borough of Orwigsburg Summary (CID 421204)

The following pages include Flood Risk data for the Borough of Orwigsburg.

#### 3.3.18.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Orwigsburg	421204	3,099	100	2.2	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 41 policies totaling approximately \$5,977,700.

Data provided below only includes areas in the Borough of Orwigsburg that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.18.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Orwigsburg were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	-0.1	-0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Orwigsburg flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Orwigsburg: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$409,973,776	63%	\$300,000	<1%	\$400,000	<1%	\$1,000,000	<1%	\$500,000	<1%	N/A	N/A
Commercial Building & Contents	\$107,758,279	17%	\$30,000	<1%	\$40,000	<1%	\$300,000	<1%	\$50,000	<1%	N/A	N/A
Other Building & Contents	\$133,335,032	20%	\$70,000	<1%	\$90,000	<1%	\$200,000	<1%	\$100,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$651,067,087	100%	\$400,000	<1%	\$500,000	<1%	\$1,400,000	<1%	\$700,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$10,000	N/A	\$30,000	N/A	\$10,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$651,067,087	100%	\$400,000	<1%	\$500,000	<1%	\$1,500,000	<1%	\$700,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Orwigsburg: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$409,973,776	63%	N/A	N/A
Commercial Building & Contents	\$107,758,279	17%	N/A	N/A
Other Building & Contents	\$133,335,032	20%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$651,067,087	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$651,067,087</b>	<b>100%</b>	<b>\$27,600,000</b>	<b>4%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.19 Borough of Palo Alto Summary (CID 420780)

The following pages include Flood Risk data for the Borough of Palo Alto.

#### 3.3.19.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Palo Alto	420780	1,032	100	1.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$.

Data provided below only includes areas in the Borough of Palo Alto that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.19.2 Community Analyses and Results

- **Changes Since Last FIRM**
    - Special Flood Hazard Area (SFHA) boundaries within the Borough of Palo Alto were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.
- The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Palo Alto flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Palo Alto: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$102,473,982	65%	\$300,000	<1%	\$400,000	<1%	\$400,000	<1%	\$500,000	<1%	N/A	N/A
Commercial Building & Contents	\$13,253,433	8%	\$700,000	5%	\$1,000,000	8%	\$1,200,000	9%	\$1,500,000	11%	N/A	N/A
Other Building & Contents	\$42,629,866	27%	\$2,300,000	5%	\$2,900,000	7%	\$3,100,000	7%	\$3,500,000	8%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$158,357,281	100%	\$3,300,000	2%	\$4,300,000	3%	\$4,700,000	3%	\$5,500,000	3%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$100,000	N/A	\$200,000	N/A	\$200,000	N/A	\$200,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$158,357,281	100%	\$3,500,000	2%	\$4,500,000	3%	\$4,900,000	3%	\$5,700,000	4%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Palo Alto: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$102,473,982	65%	N/A	N/A
Commercial Building & Contents	\$13,253,433	8%	N/A	N/A
Other Building & Contents	\$42,629,866	27%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$158,357,281	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$158,357,281	100%	\$3,700,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.20 Borough of Pine Grove Summary (CID 420781)

The following pages include Flood Risk data for the Borough of Pine Grove.

#### 3.3.20.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Pine Grove	420781	2,186	100	1.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 89 policies totaling approximately \$10,031,400.

Data provided below only includes areas in the Borough of Pine Grove that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.20.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Pine Grove flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Pine Grove: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$283,361,613	58%	\$300,000	<1%	\$500,000	<1%	\$1,100,000	<1%	\$1,600,000	1%	N/A	N/A
Commercial Building & Contents	\$93,935,347	19%	\$70,000	<1%	\$80,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A
Other Building & Contents	\$114,329,822	23%	\$50,000	<1%	\$60,000	<1%	\$100,000	<1%	\$100,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$491,626,782	100%	\$400,000	<1%	\$600,000	<1%	\$1,400,000	<1%	\$2,000,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$10,000	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$491,626,782	100%	\$400,000	<1%	\$600,000	<1%	\$1,400,000	<1%	\$2,000,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Pine Grove: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$283,361,613	58%	N/A	N/A
Commercial Building & Contents	\$93,935,347	19%	N/A	N/A
Other Building & Contents	\$114,329,822	23%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$491,626,782	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$491,626,782	100%	\$81,000,000	16%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.21 Borough of Port Carbon Summary (CID 420783)

The following pages include Flood Risk data for the Borough of Port Carbon.

#### 3.3.21.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Port Carbon	420783	1,889	100	0.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 87 policies totaling approximately \$6,822,500.

Data provided below only includes areas in the Borough of Port Carbon that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.21.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Port Carbon were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Port Carbon flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Port Carbon: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$187,965,712	75%	\$3,300,000	2%	\$7,300,000	4%	\$10,000,000	5%	\$16,900,000	9%	N/A	N/A
Commercial Building & Contents	\$36,492,082	15%	\$2,400,000	6%	\$4,400,000	12%	\$5,500,000	15%	\$8,800,000	24%	N/A	N/A
Other Building & Contents	\$26,362,793	10%	\$2,100,000	8%	\$4,200,000	16%	\$5,500,000	21%	\$7,500,000	29%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$250,820,587	100%	\$7,800,000	3%	\$16,000,000	6%	\$21,000,000	8%	\$33,300,000	13%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$400,000	N/A	\$800,000	N/A	\$900,000	N/A	\$1,200,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$250,820,587	100%	\$8,200,000	3%	\$16,700,000	7%	\$22,000,000	9%	\$34,500,000	14%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Port Carbon: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$187,965,712	75%	N/A	N/A
Commercial Building & Contents	\$36,492,082	15%	N/A	N/A
Other Building & Contents	\$26,362,793	10%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$250,820,587	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$250,820,587</b>	<b>100%</b>	<b>\$57,600,000</b>	<b>23%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.22 Borough of Port Clinton Summary (CID 420784)

The following pages include Flood Risk data for the Borough of Port Clinton.

#### 3.3.22.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Port Clinton	420784	326	100	0.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 15 policies totaling approximately \$1,359,300.

Data provided below only includes areas in the Borough of Port Clinton that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.22.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Port Clinton were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Port Clinton flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Port Clinton: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$43,252,684	82%	\$600,000	1%	\$2,100,000	5%	\$3,100,000	7%	\$6,100,000	14%	N/A	N/A
Commercial Building & Contents	\$6,827,696	13%	\$60,000	1%	\$600,000	9%	\$700,000	11%	\$1,100,000	15%	N/A	N/A
Other Building & Contents	\$2,562,154	5%	\$0	0%	\$0	0%	\$60,000	2%	\$400,000	16%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$52,642,534	100%	\$700,000	1%	\$2,700,000	5%	\$3,900,000	7%	\$7,600,000	14%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$50,000	N/A	\$60,000	N/A	\$100,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$52,642,534	100%	\$700,000	1%	\$2,700,000	5%	\$3,900,000	7%	\$7,700,000	15%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Port Clinton: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$43,252,684	82%	N/A	N/A
Commercial Building & Contents	\$6,827,696	13%	N/A	N/A
Other Building & Contents	\$2,562,154	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$52,642,534	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$52,642,534	100%	\$13,200,000	25%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.23 Borough of Ringtown Summary (CID 422505)

The following pages include Flood Risk data for the Borough of Ringtown.

#### 3.3.23.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Ringtown	422505	818	100	0.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Borough of Ringtown that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.23.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Ringtown flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Ringtown: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$118,396,870	60%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Commercial Building & Contents	\$13,896,207	7%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$63,686,991	33%	\$0	0%	\$0	0%	\$0	0%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$195,980,068	100%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$195,980,068	100%	\$10,000	0%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Ringtown: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$118,396,870	60%	N/A	N/A
Commercial Building & Contents	\$13,896,207	7%	N/A	N/A
Other Building & Contents	\$63,686,991	33%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$195,980,068	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$195,980,068	100%	\$800,000	<1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.24 Borough of Schuylkill Haven Summary (CID 420787)

The following pages include Flood Risk data for the Borough of Schuylkill Haven.

#### 3.3.24.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Schuylkill Haven	420787	5,437	100	1.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 92 policies totaling approximately \$10,459,600.

Data provided below only includes areas in the Borough of Schuylkill Haven that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.24.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Schuylkill Haven were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.3	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Schuylkill Haven flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Schuylkill Haven: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$599,271,799	51%	\$3,200,000	1%	\$7,500,000	1%	\$10,200,000	2%	\$18,400,000	3%	N/A	N/A
Commercial Building & Contents	\$233,614,771	20%	\$3,300,000	1%	\$6,400,000	3%	\$8,200,000	4%	\$13,600,000	6%	N/A	N/A
Other Building & Contents	\$332,701,438	29%	\$700,000	<1%	\$2,800,000	1%	\$4,300,000	1%	\$10,600,000	3%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,165,588,008	100%	\$7,200,000	1%	\$16,700,000	1%	\$22,700,000	2%	\$42,600,000	4%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$200,000	N/A	\$600,000	N/A	\$700,000	N/A	\$1,500,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$1,165,588,008	100%	\$7,400,000	1%	\$17,200,000	1%	\$23,400,000	2%	\$44,100,000	4%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Schuylkill Haven: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$599,271,799	51%	N/A	N/A
Commercial Building & Contents	\$233,614,771	20%	N/A	N/A
Other Building & Contents	\$332,701,438	29%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,165,588,008	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$1,165,588,008	100%	\$62,600,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.25 Borough of Shenandoah Summary (CID 420788)

The following pages include Flood Risk data for the Borough of Shenandoah.

#### 3.3.25.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Shenandoah	420788	5,071	100	1.6	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 24 policies totaling approximately \$2,113,600.

Data provided below only includes areas in the Borough of Shenandoah that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.25.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Shenandoah flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Shenandoah: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$673,438,752	60%	\$20,000	<1%	\$40,000	<1%	\$50,000	<1%	\$60,000	<1%	N/A	N/A
Commercial Building & Contents	\$352,980,093	32%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$87,931,298	8%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,114,350,143	100%	\$20,000	<1%	\$40,000	<1%	\$50,000	<1%	\$60,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$1,114,350,143	100%	\$20,000	0%	\$40,000	<1%	\$50,000	<1%	\$60,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Shenandoah: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$673,438,752	60%	N/A	N/A
Commercial Building & Contents	\$352,980,093	32%	N/A	N/A
Other Building & Contents	\$87,931,298	8%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,114,350,143	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$1,114,350,143</b>	<b>100%</b>	<b>\$97,900,000</b>	<b>9%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.26 Borough of St. Clair Summary (CID 420786)

The following pages include Flood Risk data for the Borough of St. Clair.

#### 3.3.26.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of St. Clair	420786	3,004	100	1.2	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 79 policies totaling approximately \$5,099,600.

Data provided below only includes areas in the Borough of St. Clair that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.26.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of St. Clair were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of St. Clair flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of St. Clair: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$348,097,718	54%	\$600,000	<1%	\$3,000,000	1%	\$5,200,000	2%	\$18,800,000	5%	N/A	N/A
Commercial Building & Contents	\$129,956,694	20%	\$200,000	<1%	\$2,000,000	2%	\$3,900,000	3%	\$16,800,000	13%	N/A	N/A
Other Building & Contents	\$164,384,628	26%	\$100,000	<1%	\$1,700,000	1%	\$4,100,000	2%	\$20,800,000	13%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$642,439,040	100%	\$900,000	<1%	\$6,600,000	1%	\$13,200,000	2%	\$56,400,000	9%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$40,000	N/A	\$700,000	N/A	\$1,100,000	N/A	\$3,500,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$642,439,040	100%	\$900,000	<1%	\$7,300,000	1%	\$14,300,000	2%	\$59,900,000	9%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of St. Clair: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$348,097,718	54%	N/A	N/A
Commercial Building & Contents	\$129,956,694	20%	N/A	N/A
Other Building & Contents	\$164,384,628	26%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$642,439,040	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$642,439,040</b>	<b>100%</b>	<b>\$106,200,000</b>	<b>17%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.27 Borough of Tamaqua (CID 425389)

The following pages include Flood Risk data for the Borough of Tamaqua.

#### 3.3.27.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Tamaqua	425389	7,107	100	10.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 95 policies totaling approximately \$12,635,900.

Data provided below only includes areas in the Borough of Tamaqua that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.27.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Borough of Tamaqua were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.4	0	-0.1	-0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Tamaqua flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Tamaqua: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$719,835,193	62%	\$40,000	<1%	\$60,000	<1%	\$70,000	<1%	\$80,000	<1%	N/A	N/A
Commercial Building & Contents	\$237,624,143	21%	\$600,000	<1%	\$700,000	<1%	\$800,000	<1%	\$900,000	<1%	N/A	N/A
Other Building & Contents	\$192,623,609	17%	\$20,000	<1%	\$40,000	<1%	\$50,000	<1%	\$70,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,150,082,944	100%	\$600,000	<1%	\$800,000	<1%	\$900,000	<1%	\$1,000,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$20,000	N/A	\$30,000	N/A	\$30,000	N/A	\$40,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$1,150,082,944	100%	\$700,000	<1%	\$800,000	<1%	\$1,000,000	<1%	\$1,100,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Tamaqua: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$719,835,193	62%	N/A	N/A
Commercial Building & Contents	\$237,624,143	21%	N/A	N/A
Other Building & Contents	\$192,623,609	17%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$1,150,082,944	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$1,150,082,944</b>	<b>100%</b>	<b>\$159,700,000</b>	<b>14%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.28 Borough of Tower City Summary (CID 420790)

The following pages include Flood Risk data for the Borough of Tower City.

#### 3.3.28.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Tower City	420790	1,346	100	0.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 1 policies totaling approximately \$280,000.

Data provided below only includes areas in the Borough of Tower City that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.28.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Tower City flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Tower City: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$191,078,024	71%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	\$30,000	<1%	N/A	N/A
Commercial Building & Contents	\$30,866,239	11%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$49,605,282	18%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$271,549,545	100%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	\$30,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$271,549,545	100%	\$10,000	0%	\$10,000	<1%	\$20,000	<1%	\$30,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Tower City: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$191,078,024	71%	N/A	N/A
Commercial Building & Contents	\$30,866,239	11%	N/A	N/A
Other Building & Contents	\$49,605,282	18%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$271,549,545	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$271,549,545</b>	<b>100%</b>	<b>\$1,000,000</b>	<b>&lt;1%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.29 Borough of Tremont Summary (CID 420791)

The following pages include Flood Risk data for the Borough of Tremont.

#### 3.3.29.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Borough of Tremont	420791	1,752	100	0.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 34 policies totaling approximately \$3,494,700.

Data provided below only includes areas in the Borough of Tremont that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.29.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Borough of Tremont flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Borough of Tremont: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$178,134,150	69%	\$3,000,000	2%	\$5,700,000	3%	\$8,000,000	4%	\$12,900,000	7%	N/A	N/A
Commercial Building & Contents	\$32,003,609	13%	\$600,000	2%	\$1,400,000	4%	\$1,700,000	5%	\$2,500,000	8%	N/A	N/A
Other Building & Contents	\$46,999,229	18%	\$1,800,000	4%	\$5,400,000	11%	\$7,400,000	16%	\$9,300,000	20%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$257,136,988	100%	\$5,400,000	2%	\$12,500,000	5%	\$17,200,000	7%	\$24,700,000	10%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$300,000	N/A	\$700,000	N/A	\$1,000,000	N/A	\$1,200,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$257,136,988	100%	\$5,600,000	2%	\$13,200,000	5%	\$18,200,000	7%	\$25,900,000	10%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Borough of Tremont: Estimated Potential Losses for Flood Event - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$178,134,150	69%	N/A	N/A
Commercial Building & Contents	\$32,003,609	13%	N/A	N/A
Other Building & Contents	\$46,999,229	18%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$257,136,988	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$257,136,988	100%	\$31,000,000	12%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.30 City of Pottsville Summary (CID 420785)

The following pages include Flood Risk data for the City of Pottsville.

#### 3.3.30.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
City of Pottsville	420785	14,324	100	4.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 7 policies totaling approximately \$2,102,800.

Data provided below only includes areas in the City of Pottsville that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.30.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the City of Pottsville were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The City of Pottsville flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## City of Pottsville: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$1,640,995,152	58%	\$900,000	<1%	\$1,500,000	<1%	\$1,600,000	<1%	\$1,900,000	<1%	N/A	N/A
Commercial Building & Contents	\$866,041,120	31%	\$2,000,000	<1%	\$3,400,000	<1%	\$3,700,000	<1%	\$4,500,000	1%	N/A	N/A
Other Building & Contents	\$306,848,038	11%	\$70,000	<1%	\$90,000	<1%	\$90,000	<1%	\$100,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$2,813,884,309	100%	\$2,900,000	<1%	\$4,900,000	<1%	\$5,400,000	<1%	\$6,500,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$50,000	N/A	\$100,000	N/A	\$100,000	N/A	\$100,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$2,813,884,309	100%	\$2,900,000	<1%	\$5,000,000	<1%	\$5,500,000	<1%	\$6,600,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## City of Pottsville: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$1,640,995,152	58%	N/A	N/A
Commercial Building & Contents	\$866,041,120	31%	N/A	N/A
Other Building & Contents	\$306,848,038	11%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$2,813,884,309	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$2,813,884,309</b>	<b>100%</b>	<b>\$18,700,000</b>	<b>1%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.31 Township of Barry Summary (CID 421997)

The following pages include Flood Risk data for the Township of Barry.

#### 3.3.31.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Barry	421997	932	100	17.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 43 policies totaling approximately \$9,406,800.

Data provided below only includes areas in the Township of Barry that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.31.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Barry flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Barry: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$139,459,600	89%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$9,109,136	6%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Other Building & Contents	\$8,374,083	5%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$156,942,819	100%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$156,942,819	100%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Barry: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$139,459,600	89%	N/A	N/A
Commercial Building & Contents	\$9,109,136	6%	N/A	N/A
Other Building & Contents	\$8,374,083	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$156,942,819	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$156,942,819	100%	\$7,600,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.32 Township of Blythe Summary (CID 420767)

The following pages include Flood Risk data for the Township of Blythe.

#### 3.3.32.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Blythe	420767	924	100	28.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 26 policies totaling approximately \$5,188,000.

Data provided below only includes areas in the Township of Blythe that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.32.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Blythe were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.5	0	0	0
Within Floodway	0.1	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Blythe flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Blythe: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$99,507,034	80%	\$300,000	<1%	\$600,000	1%	\$800,000	1%	\$1,200,000	1%	N/A	N/A
Commercial Building & Contents	\$19,635,393	16%	\$10,000	<1%	\$40,000	<1%	\$50,000	<1%	\$90,000	<1%	N/A	N/A
Other Building & Contents	\$4,838,587	4%	\$10,000	<1%	\$20,000	<1%	\$30,000	1%	\$40,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$123,981,014	100%	\$300,000	<1%	\$700,000	1%	\$900,000	1%	\$1,300,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$10,000	N/A	\$10,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$123,981,014	100%	\$300,000	<1%	\$700,000	1%	\$900,000	1%	\$1,300,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Blythe: Estimated Potential Losses for Flood Event Scenarios Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$99,507,034	80%	N/A	N/A
Commercial Building & Contents	\$19,635,393	16%	N/A	N/A
Other Building & Contents	\$4,838,587	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$123,981,014	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$123,981,014	100%	\$5,200,000	4%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.33 Township of Branch Summary (CID 421998)

The following pages include Flood Risk data for the Township of Branch.

#### 3.3.33.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Branch	421998	1,840	100	11.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 6 policies totaling approximately \$1,639,100.

Data provided below only includes areas in the Township of Branch that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.33.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Branch were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.7	0.3	0	0.3
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Branch flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Branch: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$229,286,191	84%	\$300,000	<1%	\$400,000	<1%	\$500,000	<1%	\$700,000	<1%	N/A	N/A
Commercial Building & Contents	\$35,953,871	13%	\$60,000	<1%	\$80,000	<1%	\$100,000	<1%	\$100,000	<1%	N/A	N/A
Other Building & Contents	\$8,295,193	3%	\$10,000	<1%	\$20,000	<1%	\$40,000	<1%	\$30,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$273,535,255	100%	\$400,000	<1%	\$500,000	<1%	\$700,000	<1%	\$900,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$273,535,255	100%	\$400,000	<1%	\$500,000	<1%	\$700,000	<1%	\$900,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Branch: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$229,286,191	84%	N/A	N/A
Commercial Building & Contents	\$35,953,871	13%	N/A	N/A
Other Building & Contents	\$8,295,193	3%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$273,535,255	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$273,535,255	100%	\$12,600,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.34 Township of Butler Summary (CID 421999)

The following pages include Flood Risk data for the Township of Branch.

#### 3.3.34.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Butler	421999	5,224	100	26.9	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 2 policies totaling approximately \$560,000.

Data provided below only includes areas in the Township of Branch that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.34.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Butler were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.9	0	-0.3	-0.3
Within Floodway	0.2	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Butler flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Butler: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$565,276,400	83%	\$500,000	<1%	\$900,000	<1%	\$1,300,000	<1%	\$2,200,000	<1%	N/A	N/A
Commercial Building & Contents	\$69,410,765	10%	\$100,000	<1%	\$300,000	<1%	\$400,000	1%	\$700,000	1%	N/A	N/A
Other Building & Contents	\$47,879,565	7%	\$10,000	<1%	\$30,000	<1%	\$50,000	<1%	\$200,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$682,566,730	100%	\$600,000	<1%	\$1,200,000	<1%	\$1,800,000	<1%	\$3,000,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$10,000	N/A	\$20,000	N/A	\$40,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$682,566,730	100%	\$600,000	<1%	\$1,200,000	<1%	\$1,800,000	<1%	\$3,100,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Butler: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$565,276,400	83%	N/A	N/A
Commercial Building & Contents	\$69,410,765	10%	N/A	N/A
Other Building & Contents	\$47,879,565	7%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$682,566,730	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$682,566,730	100%	\$27,300,000	4%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.35 Township of Cass Summary (CID 422000)

The following pages include Flood Risk data for the Township of Cass.

#### 3.3.35.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Cass	422000	1,958	100	13.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 3 policies totaling approximately \$700,000.

Data provided below only includes areas in the Township of Cass that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.35.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Cass were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.5	0	-0.2	-0.2
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Cass flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Cass: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$189,517,642	89%	\$500,000	<1%	\$600,000	<1%	\$1,900,000	1%	\$700,000	<1%	N/A	N/A
Commercial Building & Contents	\$16,965,935	8%	\$30,000	<1%	\$40,000	<1%	\$800,000	5%	\$50,000	<1%	N/A	N/A
Other Building & Contents	\$5,323,771	3%	\$0	0%	\$0	0%	\$300,000	6%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$211,807,348	100%	\$600,000	<1%	\$700,000	<1%	\$3,000,000	1%	\$800,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$30,000	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$211,807,348	100%	\$600,000	<1%	\$700,000	<1%	\$3,000,000	1%	\$800,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Cass: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$189,517,642	89%	N/A	N/A
Commercial Building & Contents	\$16,965,935	8%	N/A	N/A
Other Building & Contents	\$5,323,771	3%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$211,807,348	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$211,807,348	100%	\$14,500,000	7%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.36 Township of Delano Summary (CID 422001)

The following pages include Flood Risk data for the Township of Delano.

#### 3.3.36.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Delano	422001	445	100	8.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 9 policies totaling approximately \$4,955,100.

Data provided below only includes areas in the Township of Delano that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.36.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Delano were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	-0.2	-0.2
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Delano flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Delano: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$49,821,769	57%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A
Commercial Building & Contents	\$10,364,388	12%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$26,932,257	31%	\$20,000	<1%	\$30,000	<1%	\$30,000	<1%	\$40,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$87,118,414	100%	\$30,000	<1%	\$40,000	<1%	\$40,000	<1%	\$50,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$10,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$87,118,414</b>	<b>100%</b>	<b>\$30,000</b>	<b>&lt;1%</b>	<b>\$40,000</b>	<b>&lt;1%</b>	<b>\$50,000</b>	<b>&lt;1%</b>	<b>\$60,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Delano: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$49,821,769	57%	N/A	N/A
Commercial Building & Contents	\$10,364,388	12%	N/A	N/A
Other Building & Contents	\$26,932,257	31%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$87,118,414	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$87,118,414	100%	\$4,100,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.37 Township of East Brunswick Summary (CID 422002)

The following pages include Flood Risk data for the Township of East Brunswick.

#### 3.3.37.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of East Brunswick	422002	1,793	100	31.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 3 policies totaling approximately \$386,300.

Data provided below only includes areas in the Township of East Brunswick that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.37.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of East Brunswick were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	1.5	0.6	0	0.6
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of East Brunswick flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of East Brunswick: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$245,448,748	75%	\$600,000	<1%	\$1,000,000	<1%	\$1,300,000	1%	\$1,500,000	1%	N/A	N/A
Commercial Building & Contents	\$60,048,055	18%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	1%	N/A	N/A
Other Building & Contents	\$22,642,312	7%	\$10,000	<1%	\$30,000	<1%	\$40,000	<1%	\$50,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$328,139,114	100%	\$800,000	<1%	\$1,200,000	<1%	\$1,600,000	<1%	\$1,900,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$10,000	N/A	\$10,000	N/A	\$10,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$328,139,114	100%	\$800,000	<1%	\$1,200,000	<1%	\$1,600,000	<1%	\$1,900,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of East Brunswick: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$245,448,748	75%	N/A	N/A
Commercial Building & Contents	\$60,048,055	18%	N/A	N/A
Other Building & Contents	\$22,642,312	7%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$328,139,114	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$328,139,114	100%	\$7,700,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.38 Township of East Norwegian Summary (CID 422003)

The following pages include Flood Risk data for the Township of East Norwegian.

#### 3.3.38.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of East Norwegian	422003	863	100	4.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 10 policies totaling approximately \$2,136,200.

Data provided below only includes areas in the Township of East Norwegian that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.38.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of East Norwegian were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0.1	0	0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of East Norwegian flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of East Norwegian: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$123,847,709	83%	\$400,000	<1%	\$600,000	1%	\$800,000	1%	\$1,600,000	1%	N/A	N/A
Commercial Building & Contents	\$8,653,720	6%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$90,000	1%	N/A	N/A
Other Building & Contents	\$16,072,861	11%	\$80,000	<1%	\$200,000	1%	\$200,000	1%	\$600,000	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$148,574,290	100%	\$400,000	<1%	\$800,000	1%	\$1,000,000	1%	\$2,300,000	2%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$20,000	N/A	\$20,000	N/A	\$70,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$148,574,290	100%	\$400,000	<1%	\$800,000	1%	\$1,000,000	1%	\$2,400,000	2%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of East Norwegian: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$123,847,709	83%	N/A	N/A
Commercial Building & Contents	\$8,653,720	6%	N/A	N/A
Other Building & Contents	\$16,072,861	11%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$148,574,290	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$148,574,290	100%	\$4,600,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.39 Township of East Union Summary (CID 422004)

The following pages include Flood Risk data for the Township of East Union.

#### 3.3.39.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of East Union	422004	1,605	100	25.5	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 17 policies totaling approximately \$4,046,700.

Data provided below only includes areas in the Township of East Union that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.39.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of East Union flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of East Union: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$177,767,438	88%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$15,943,385	8%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	N/A	N/A
Other Building & Contents	\$8,458,656	4%	\$0	0%	\$0	0%	\$0	0%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$202,169,479	100%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$202,169,479	100%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of East Union: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$177,767,438	88%	N/A	N/A
Commercial Building & Contents	\$15,943,385	8%	N/A	N/A
Other Building & Contents	\$8,458,656	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$202,169,479	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$202,169,479	100%	\$3,000,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.40 Township of Eldred Summary (CID 422005)

The following pages include Flood Risk data for the Township of Eldred.

#### 3.3.40.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Eldred	422005	758	100	22.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Township of Eldred that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.40.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Eldred flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Eldred: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$80,765,871	66%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	\$400,000	1%	N/A	N/A
Commercial Building & Contents	\$26,241,836	21%	\$30,000	<1%	\$40,000	<1%	\$50,000	<1%	\$60,000	<1%	N/A	N/A
Other Building & Contents	\$16,393,582	13%	\$0	0%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$123,401,289	100%	\$200,000	<1%	\$300,000	<1%	\$400,000	<1%	\$500,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$123,401,289	100%	\$200,000	<1%	\$300,000	<1%	\$400,000	<1%	\$500,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Eldred: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$80,765,871	66%	N/A	N/A
Commercial Building & Contents	\$26,241,836	21%	N/A	N/A
Other Building & Contents	\$16,393,582	13%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$123,401,289	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$123,401,289	100%	\$6,500,000	5%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.41 Township of Foster Summary (CID 422006)

The following pages include Flood Risk data for the Township of Foster.

#### 3.3.41.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Foster	422006	251	100	12.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Township of Foster that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.41.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Foster were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0	0	-0.1	-0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Foster flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Foster: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$25,499,716	68%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Commercial Building & Contents	\$10,084,477	27%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$2,108,045	5%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$37,692,239	100%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$37,692,239	100%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Foster: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$25,499,716	68%	N/A	N/A
Commercial Building & Contents	\$10,084,477	27%	N/A	N/A
Other Building & Contents	\$2,108,045	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$37,692,239	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$37,692,239	100%	\$200,000	1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.42 Township of Frailey Summary (CID 422007)

The following pages include Flood Risk data for the Township of Frailey.

#### 3.3.42.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Frailey	422007	429	100	9.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 1 policies totaling approximately \$67,500.

Data provided below only includes areas in the Township of Frailey that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.42.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Frailey flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Frailey: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$44,277,847	74%	\$50,000	<1%	\$70,000	<1%	\$80,000	<1%	\$100,000	<1%	N/A	N/A
Commercial Building & Contents	\$6,295,635	10%	\$70,000	1%	\$100,000	2%	\$100,000	2%	\$100,000	2%	N/A	N/A
Other Building & Contents	\$9,463,162	16%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$60,036,644	100%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$60,036,644</b>	<b>100%</b>	<b>\$100,000</b>	<b>&lt;1%</b>	<b>\$200,000</b>	<b>&lt;1%</b>	<b>\$200,000</b>	<b>&lt;1%</b>	<b>\$300,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Frailey: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$44,277,847	74%	N/A	N/A
Commercial Building & Contents	\$6,295,635	10%	N/A	N/A
Other Building & Contents	\$9,463,162	16%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$60,036,644	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$60,036,644	100%	\$4,300,000	7%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.43 Township of Hegins Summary (CID 422008)

The following pages include Flood Risk data for the Township of Hegins.

#### 3.3.43.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Hegins	422008	3,516	100	32.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 5 policies totaling approximately \$1,410,000.

Data provided below only includes areas in the Township of Hegins that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.43.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Hegin's flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Hegins: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$441,835,967	65%	\$500,000	<1%	\$800,000	<1%	\$1,000,000	<1%	\$1,300,000	<1%	N/A	N/A
Commercial Building & Contents	\$105,706,362	15%	\$300,000	<1%	\$500,000	<1%	\$500,000	1%	\$700,000	1%	N/A	N/A
Other Building & Contents	\$138,261,246	20%	\$700,000	1%	\$1,300,000	1%	\$1,700,000	1%	\$2,300,000	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$685,803,575	100%	\$1,400,000	<1%	\$2,600,000	<1%	\$3,200,000	<1%	\$4,300,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$70,000	N/A	\$100,000	N/A	\$200,000	N/A	\$200,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$685,803,575	100%	\$1,500,000	<1%	\$2,700,000	<1%	\$3,400,000	<1%	\$4,600,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Hegins: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$441,835,967	65%	N/A	N/A
Commercial Building & Contents	\$105,706,362	15%	N/A	N/A
Other Building & Contents	\$138,261,246	20%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$685,803,575	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$685,803,575	100%	\$25,400,000	4%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.44 Township of Hubley Summary (CID 422009)

The following pages include Flood Risk data for the Township of Hubley.

#### 3.3.44.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Hubley	422009	854	100	13.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 14 policies totaling approximately \$2,233,800.

Data provided below only includes areas in the Township of Hubley that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.44.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Hubley flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Hubley: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$81,159,764	79%	\$300,000	<1%	\$600,000	1%	\$700,000	1%	\$900,000	1%	N/A	N/A
Commercial Building & Contents	\$15,621,710	15%	\$200,000	1%	\$400,000	2%	\$400,000	3%	\$500,000	3%	N/A	N/A
Other Building & Contents	\$5,813,893	6%	\$50,000	1%	\$90,000	2%	\$100,000	2%	\$100,000	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$102,595,367	100%	\$600,000	1%	\$1,000,000	1%	\$1,200,000	1%	\$1,600,000	2%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$20,000	N/A	\$20,000	N/A	\$30,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$102,595,367	100%	\$600,000	1%	\$1,000,000	1%	\$1,200,000	1%	\$1,600,000	2%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Hubley: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$81,159,764	79%	N/A	N/A
Commercial Building & Contents	\$15,621,710	15%	N/A	N/A
Other Building & Contents	\$5,813,893	6%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$102,595,367	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$102,595,367	100%	\$10,300,000	10%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.45 Township of Kline Summary (CID 422010)

The following pages include Flood Risk data for the Township of Kline.

#### 3.3.45.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Kline	422010	1,438	100	12.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 80 policies totaling approximately \$9,022,100.

Data provided below only includes areas in the Township of Kline that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.45.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Kline were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0	-0.2	-0.2
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Kline flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Kline: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$149,659,258	63%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$30,000	<1%	N/A	N/A
Commercial Building & Contents	\$16,323,304	7%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$20,000	<1%	N/A	N/A
Other Building & Contents	\$72,881,454	30%	\$10,000	<1%	\$20,000	<1%	\$30,000	<1%	\$40,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$238,864,016	100%	\$30,000	<1%	\$50,000	<1%	\$60,000	<1%	\$80,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$238,864,016	100%	\$30,000	<1%	\$60,000	<1%	\$70,000	<1%	\$90,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Kline: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$149,659,258	63%	N/A	N/A
Commercial Building & Contents	\$16,323,304	7%	N/A	N/A
Other Building & Contents	\$72,881,454	30%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$238,864,016	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$238,864,016	100%	\$3,900,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.46 Township of Mahanoy Summary (CID 422011)

The following pages include Flood Risk data for the Township of Mahanoy.

#### 3.3.46.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Mahanoy	422011	3,152	100	21.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 4 policies totaling approximately \$548,200.

Data provided below only includes areas in the Township of Mahanoy that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.46.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Mahanoy were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.3	0	-0.3	-0.3
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Mahanoy flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Mahanoy: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$173,056,277	92%	\$700,000	<1%	\$800,000	<1%	\$900,000	1%	\$1,000,000	1%	N/A	N/A
Commercial Building & Contents	\$7,697,143	4%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$7,656,905	4%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$188,410,325	100%	\$700,000	<1%	\$800,000	<1%	\$900,000	<1%	\$1,000,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$188,410,325	100%	\$700,000	<1%	\$800,000	<1%	\$900,000	<1%	\$1,000,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Mahanoy: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$173,056,277	92%	N/A	N/A
Commercial Building & Contents	\$7,697,143	4%	N/A	N/A
Other Building & Contents	\$7,656,905	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$188,410,325	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$188,410,325	100%	\$4,300,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.47 Township of New Castle Summary (CID 422012)

The following pages include Flood Risk data for the Township of New Castle.

#### 3.3.47.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of New Castle	422012	414	100	12.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 1 policies totaling approximately \$350,000.

Data provided below only includes areas in the Township of New Castle that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.47.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of New Castle were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of New Castle flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of New Castle: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$47,637,250	61%	\$0	0%	\$0	0%	\$20,000	<1%	\$0	0%	N/A	N/A
Commercial Building & Contents	\$27,796,745	35%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$2,779,299	4%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$78,213,295	100%	\$0	0%	\$0	0%	\$20,000	<1%	\$0	0%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$78,213,295</b>	<b>100%</b>	<b>\$0</b>	<b>0%</b>	<b>\$0</b>	<b>0%</b>	<b>\$20,000</b>	<b>&lt;1%</b>	<b>\$0</b>	<b>0%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of New Castle: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$47,637,250	61%	N/A	N/A
Commercial Building & Contents	\$27,796,745	35%	N/A	N/A
Other Building & Contents	\$2,779,299	4%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$78,213,295	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$78,213,295	100%	\$800,000	1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.48 Township of North Manheim Summary (CID 422013)

The following pages include Flood Risk data for the Township of North Manheim.

#### 3.3.48.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of North Manheim	422013	3,770	100	20.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 13 policies totaling approximately \$3,295,200.

Data provided below only includes areas in the Township of North Manheim that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.48.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of North Manheim were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	1.2	0	0	0
Within Floodway	0.2	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of North Manheim flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of North Manheim: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$478,942,269	64%	\$800,000	<1%	\$1,300,000	<1%	\$2,000,000	<1%	\$2,400,000	1%	N/A	N/A
Commercial Building & Contents	\$151,997,727	20%	\$1,000,000	1%	\$1,400,000	1%	\$1,900,000	1%	\$2,400,000	2%	N/A	N/A
Other Building & Contents	\$115,404,314	16%	\$80,000	<1%	\$100,000	<1%	\$300,000	<1%	\$200,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$746,344,310	100%	\$1,900,000	<1%	\$2,900,000	<1%	\$4,200,000	1%	\$5,000,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$40,000	N/A	\$70,000	N/A	\$100,000	N/A	\$100,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$746,344,310	100%	\$1,900,000	<1%	\$3,000,000	<1%	\$4,300,000	1%	\$5,100,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of North Manheim: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$478,942,269	64%	N/A	N/A
Commercial Building & Contents	\$151,997,727	20%	N/A	N/A
Other Building & Contents	\$115,404,314	16%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$746,344,310	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$746,344,310</b>	<b>100%</b>	<b>\$39,200,000</b>	<b>5%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.49 Township of North Union Summary (CID 422014)

The following pages include Flood Risk data for the Township of North Manheim.

#### 3.3.49.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of North Union	422014	1,476	100	20.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 13 policies totaling approximately \$3,570,000.

Data provided below only includes areas in the Township of North Union that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.49.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of North Union were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	1.0	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of North Union flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of North Union: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$235,321,743	91%	\$300,000	<1%	\$500,000	<1%	\$600,000	<1%	\$800,000	<1%	N/A	N/A
Commercial Building & Contents	\$16,644,621	6%	\$100,000	1%	\$200,000	1%	\$300,000	2%	\$400,000	2%	N/A	N/A
Other Building & Contents	\$8,300,580	3%	\$20,000	<1%	\$50,000	1%	\$70,000	1%	\$90,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$260,266,944	100%	\$400,000	<1%	\$700,000	<1%	\$900,000	<1%	\$1,300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$10,000	N/A	\$10,000	N/A	\$20,000	N/A	\$30,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$260,266,944	100%	\$400,000	<1%	\$700,000	<1%	\$900,000	<1%	\$1,300,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of North Union: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$235,321,743	91%	N/A	N/A
Commercial Building & Contents	\$16,644,621	6%	N/A	N/A
Other Building & Contents	\$8,300,580	3%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$260,266,944	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$260,266,944	100%	\$7,600,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.50 Township of Norwegian Summary (CID 422015)

The following pages include Flood Risk data for the Township of Norwegian.

#### 3.3.50.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Norwegian	422015	2,310	100	5.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Township of Norwegian that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.50.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Norwegian were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.2	0.1	0	0.1
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Norwegian flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Norwegian: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$228,743,963	45%	\$80,000	<1%	\$100,000	<1%	\$300,000	<1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$158,844,429	32%	\$40,000	<1%	\$70,000	<1%	\$100,000	<1%	\$200,000	<1%	N/A	N/A
Other Building & Contents	\$114,258,313	23%	\$10,000	0%	\$20,000	<1%	\$50,000	<1%	\$70,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$501,846,705	100%	\$100,000	<1%	\$200,000	<1%	\$500,000	<1%	\$500,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$501,846,705	100%	\$100,000	<1%	\$200,000	<1%	\$500,000	<1%	\$500,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Norwegian: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$228,743,963	45%	N/A	N/A
Commercial Building & Contents	\$158,844,429	32%	N/A	N/A
Other Building & Contents	\$114,258,313	23%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$501,846,705	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$501,846,705	100%	\$2,300,000	<1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.51 Township of Pine Grove Summary (CID 420782)

The following pages include Flood Risk data for the Township of Pine Grove.

#### 3.3.51.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Pine Grove	420782	4,123	100	37.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 10 policies totaling approximately \$3,375,800.

Data provided below only includes areas in the Township of Pine Grove that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.51.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Pine Grove flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Pine Grove: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$417,772,911	73%	\$300,000	<1%	\$500,000	<1%	\$6,300,000	2%	\$900,000	<1%	N/A	N/A
Commercial Building & Contents	\$76,848,909	14%	\$10,000	<1%	\$30,000	<1%	\$3,300,000	4%	\$70,000	<1%	N/A	N/A
Other Building & Contents	\$75,216,079	13%	\$200,000	<1%	\$400,000	1%	\$5,500,000	7%	\$600,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$569,837,899	100%	\$500,000	<1%	\$900,000	<1%	\$15,100,000	3%	\$1,600,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$50,000	N/A	\$70,000	N/A	\$900,000	N/A	\$90,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$569,837,899	100%	\$600,000	<1%	\$1,000,000	<1%	\$16,000,000	3%	\$1,700,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Pine Grove: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$417,772,911	73%	N/A	N/A
Commercial Building & Contents	\$76,848,909	14%	N/A	N/A
Other Building & Contents	\$75,216,079	13%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$569,837,899	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$569,837,899	100%	\$60,400,000	11%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.52 Township of Porter Summary (CID 422016)

The following pages include Flood Risk data for the Township of Porter.

#### 3.3.52.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Porter	422016	2,176	100	17.9	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 27 policies totaling approximately \$5,458,500.

Data provided below only includes areas in the Township of Porter that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.52.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Porter flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Porter: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$251,471,572	78%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$25,255,698	8%	\$10,000	<1%	\$20,000	<1%	\$20,000	<1%	\$40,000	<1%	N/A	N/A
Other Building & Contents	\$47,277,832	14%	\$30,000	<1%	\$50,000	<1%	\$70,000	<1%	\$100,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$324,005,101	100%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	\$500,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$324,005,101	100%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	\$500,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Porter: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$251,471,572	78%	N/A	N/A
Commercial Building & Contents	\$25,255,698	8%	N/A	N/A
Other Building & Contents	\$47,277,832	14%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$324,005,101	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$324,005,101	100%	\$11,100,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.53 Township of Reilly Summary (CID 422017)

The following pages include Flood Risk data for the Township of Reilly.

#### 3.3.53.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Reilly	422017	726	100	16.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 1 policies totaling approximately \$132,000.

Data provided below only includes areas in the Township of Reilly that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.53.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Reilly were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.7	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Reilly flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Reilly: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$77,817,446	85%	\$200,000	<1%	\$400,000	1%	\$500,000	1%	\$700,000	1%	N/A	N/A
Commercial Building & Contents	\$9,424,762	10%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$4,013,593	5%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$91,255,802	100%	\$300,000	<1%	\$400,000	<1%	\$500,000	1%	\$700,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$91,255,802	100%	\$300,000	<1%	\$400,000	<1%	\$500,000	1%	\$700,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Reilly: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$77,817,446	85%	N/A	N/A
Commercial Building & Contents	\$9,424,762	10%	N/A	N/A
Other Building & Contents	\$4,013,593	5%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$91,255,802	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$91,255,802	100%	\$6,800,000	7%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.54 Township of Rush Summary (CID 422018)

The following pages include Flood Risk data for the Township of Rush.

#### 3.3.54.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Rush	422018	3,412	100	23.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 23 policies totaling approximately \$3,253,300.

Data provided below only includes areas in the Township of Rush that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.54.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Rush were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	2.2	0.3	0	0.3
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Rush flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Rush: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$433,219,942	70%	\$300,000	<1%	\$300,000	<1%	\$300,000	<1%	\$400,000	<1%	N/A	N/A
Commercial Building & Contents	\$60,570,504	10%	\$60,000	<1%	\$100,000	<1%	\$100,000	<1%	\$200,000	<1%	N/A	N/A
Other Building & Contents	\$125,364,102	20%	\$20,000	<1%	\$40,000	<1%	\$50,000	<1%	\$70,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$619,154,549	100%	\$300,000	<1%	\$500,000	<1%	\$500,000	<1%	\$700,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$10,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$619,154,549	100%	\$300,000	<1%	\$500,000	<1%	\$500,000	<1%	\$700,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Rush: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$433,219,942	70%	N/A	N/A
Commercial Building & Contents	\$60,570,504	10%	N/A	N/A
Other Building & Contents	\$125,364,102	20%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$619,154,549	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$619,154,549	100%	\$12,400,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.55 Township of Ryan Summary (CID 422019)

The following pages include Flood Risk data for the Township of Ryan.

#### 3.3.55.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Ryan	422019	2,459	100	17.6	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 10 policies totaling approximately \$1,337,300.

Data provided below only includes areas in the Township of Ryan that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.55.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Ryan were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.5	0.2	0	0.2
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Ryan flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Ryan: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$216,726,505	79%	\$30,000	<1%	\$50,000	<1%	\$60,000	<1%	\$80,000	<1%	N/A	N/A
Commercial Building & Contents	\$14,865,984	5%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$42,343,061	16%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$273,935,549	100%	\$30,000	<1%	\$50,000	<1%	\$70,000	<1%	\$90,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$273,935,549	100%	\$30,000	<1%	\$50,000	<1%	\$70,000	<1%	\$90,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Ryan: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$216,726,505	79%	N/A	N/A
Commercial Building & Contents	\$14,865,984	5%	N/A	N/A
Other Building & Contents	\$42,343,061	16%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$273,935,549	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$273,935,549	100%	\$2,700,000	1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.56 Township of Schuylkill Summary (CID 422020)

The following pages include Flood Risk data for the Township of Schuylkill.

#### 3.3.56.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Schuylkill	422020	1,129	100	10.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 14 policies totaling approximately \$2,603,400.

Data provided below only includes areas in the Township of Schuylkill that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.56.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Schuylkill were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Schuylkill flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Schuylkill: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$126,697,745	84%	\$90,000	<1%	\$100,000	<1%	\$100,000	<1%	\$200,000	<1%	N/A	N/A
Commercial Building & Contents	\$3,920,230	3%	\$0	0%	\$0	0%	\$0	0%	\$10,000	0%	N/A	N/A
Other Building & Contents	\$19,360,449	13%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	\$20,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$149,978,424	100%	\$100,000	<1%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$149,978,424	100%	\$100,000	<1%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Schuylkill: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$126,697,745	84%	N/A	N/A
Commercial Building & Contents	\$3,920,230	3%	N/A	N/A
Other Building & Contents	\$19,360,449	13%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$149,978,424	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$149,978,424</b>	<b>100%</b>	<b>\$2,100,000</b>	<b>1%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.57 Township of South Manheim Summary (CID 422022)

The following pages include Flood Risk data for the Township of South Manheim.

#### 3.3.57.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of South Manheim	422022	2,507	100	21.2	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 9 policies totaling approximately \$2,256,600.

Data provided below only includes areas in the Township of South Manheim that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.57.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of South Manheim were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	1.7	0.1	0	0.1
Within Floodway	0.3	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of South Manheim flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of South Manheim: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$361,182,834	76%	\$500,000	<1%	\$700,000	<1%	\$1,400,000	<1%	\$1,000,000	<1%	N/A	N/A
Commercial Building & Contents	\$30,627,032	6%	\$200,000	1%	\$200,000	1%	\$400,000	1%	\$200,000	1%	N/A	N/A
Other Building & Contents	\$83,596,656	18%	\$300,000	<1%	\$300,000	<1%	\$600,000	1%	\$400,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$475,406,522	100%	\$900,000	<1%	\$1,200,000	<1%	\$2,500,000	1%	\$1,600,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$20,000	N/A	\$20,000	N/A	\$90,000	N/A	\$20,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$475,406,522	100%	\$900,000	<1%	\$1,200,000	<1%	\$2,600,000	1%	\$1,600,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of South Manheim: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$361,182,834	76%	N/A	N/A
Commercial Building & Contents	\$30,627,032	6%	N/A	N/A
Other Building & Contents	\$83,596,656	18%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$475,406,522	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$475,406,522	100%	\$14,400,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.58 Township of Tremont Summary (CID 422023)

The following pages include Flood Risk data for the Township of Tremont.

#### 3.3.58.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Tremont	422023	280	100	24.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 6 policies totaling approximately \$1,011,500.

Data provided below only includes areas in the Township of Tremont that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.58.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Tremont flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Tremont: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$41,212,592	66%	\$40,000	<1%	\$70,000	<1%	\$90,000	<1%	\$100,000	<1%	N/A	N/A
Commercial Building & Contents	\$19,820,822	32%	\$30,000	<1%	\$40,000	<1%	\$80,000	<1%	\$60,000	<1%	N/A	N/A
Other Building & Contents	\$1,530,348	2%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$62,563,762	100%	\$70,000	<1%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$62,563,762</b>	<b>100%</b>	<b>\$70,000</b>	<b>&lt;1%</b>	<b>\$100,000</b>	<b>&lt;1%</b>	<b>\$200,000</b>	<b>&lt;1%</b>	<b>\$200,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Tremont: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$41,212,592	66%	N/A	N/A
Commercial Building & Contents	\$19,820,822	32%	N/A	N/A
Other Building & Contents	\$1,530,348	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$62,563,762	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$62,563,762	100%	\$3,400,000	6%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.59 Township of Union Summary (CID 422024)

The following pages include Flood Risk data for the Township of Union.

#### 3.3.59.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Union	422024	1,273	100	22.1	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 15 policies totaling approximately \$3,791,100.

Data provided below only includes areas in the Township of Union that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.59.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Union flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Union: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$125,922,965	86%	\$30,000	<1%	\$60,000	<1%	\$70,000	<1%	\$100,000	<1%	N/A	N/A
Commercial Building & Contents	\$5,200,126	4%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$14,836,027	10%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$145,959,118	100%	\$30,000	<1%	\$60,000	<1%	\$70,000	<1%	\$100,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$145,959,118	100%	\$30,000	<1%	\$60,000	<1%	\$70,000	<1%	\$100,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Union: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$125,922,965	86%	N/A	N/A
Commercial Building & Contents	\$5,200,126	4%	N/A	N/A
Other Building & Contents	\$14,836,027	10%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$145,959,118	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$145,959,118	100%	\$4,100,000	3%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.60 Township of Upper Mahantango Summary (CID 422025)

The following pages include Flood Risk data for the Township of Upper Mahantango.

#### 3.3.60.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Upper Mahantango	422025	655	100	14.8	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 25 policies totaling approximately \$2,479,100.

Data provided below only includes areas in the Township of Upper Mahantango that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.60.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation

strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Upper Mahantango flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Upper Mahantango: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$88,884,889	66%	\$300,000	<1%	\$500,000	1%	\$3,600,000	4%	\$800,000	1%	N/A	N/A
Commercial Building & Contents	\$16,174,956	12%	\$300,000	2%	\$500,000	3%	\$600,000	4%	\$800,000	5%	N/A	N/A
Other Building & Contents	\$29,477,901	22%	\$300,000	1%	\$600,000	2%	\$700,000	2%	\$1,000,000	3%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$134,537,746	100%	\$900,000	1%	\$1,600,000	1%	\$5,000,000	4%	\$2,700,000	2%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$30,000	N/A	\$70,000	N/A	\$90,000	N/A	\$100,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$134,537,746	100%	\$1,000,000	1%	\$1,700,000	1%	\$5,100,000	4%	\$2,800,000	2%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Upper Mahantango: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$88,884,889	66%	N/A	N/A
Commercial Building & Contents	\$16,174,956	12%	N/A	N/A
Other Building & Contents	\$29,477,901	22%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$134,537,746	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$134,537,746	100%	\$21,100,000	16%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.61 Township of Walker Summary (CID 422026)

The following pages include Flood Risk data for the Township of Walker.

#### 3.3.61.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Walker	422026	1,054	100	22.7	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 2 policies totaling approximately \$476,000.

Data provided below only includes areas in the Township of Walker that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.61.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Walker were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.6	0	-0.4	-0.4
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Walker flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Walker: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$124,356,415	96%	\$60,000	<1%	\$90,000	<1%	\$300,000	<1%	\$200,000	<1%	N/A	N/A
Commercial Building & Contents	\$2,850,712	2%	\$0	0%	\$10,000	<1%	\$10,000	<1%	\$10,000	<1%	N/A	N/A
Other Building & Contents	\$2,158,943	2%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$129,366,069	100%	\$70,000	<1%	\$100,000	<1%	\$400,000	<1%	\$200,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$129,366,069	100%	\$70,000	<1%	\$100,000	<1%	\$400,000	<1%	\$200,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Walker: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$124,356,415	96%	N/A	N/A
Commercial Building & Contents	\$2,850,712	2%	N/A	N/A
Other Building & Contents	\$2,158,943	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$129,366,069	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$129,366,069	100%	\$8,200,000	6%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.62 Township of Washington Summary (CID 422506)

The following pages include Flood Risk data for the Township of Washington.

#### 3.3.62.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Washington	422506	3,033	100	30.9	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 1 policies totaling approximately \$80,300.

Data provided below only includes areas in the Township of Washington that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.62.2 Community Analyses and Results

- **Flood Depth and Analysis Grids**
  - See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
    - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
    - Percent annual chance of flooding grids
    - Percent chance of flooding over a 30-year period grids
  - Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Washington flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Washington: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$352,465,200	94%	\$100,000	<1%	\$200,000	<1%	\$2,200,000	1%	\$300,000	<1%	N/A	N/A
Commercial Building & Contents	\$14,124,259	4%	\$10,000	<1%	\$20,000	<1%	\$500,000	3%	\$30,000	<1%	N/A	N/A
Other Building & Contents	\$9,238,419	2%	\$0	0%	\$0	0%	\$200,000	2%	\$10,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$375,827,877	100%	\$100,000	<1%	\$200,000	<1%	\$2,900,000	1%	\$300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$30,000	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$375,827,877</b>	<b>100%</b>	<b>\$100,000</b>	<b>&lt;1%</b>	<b>\$200,000</b>	<b>&lt;1%</b>	<b>\$3,000,000</b>	<b>1%</b>	<b>\$300,000</b>	<b>&lt;1%</b>	<b>N/A</b>	<b>N/A</b>

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Washington: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$352,465,200	94%	N/A	N/A
Commercial Building & Contents	\$14,124,259	4%	N/A	N/A
Other Building & Contents	\$9,238,419	2%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$375,827,877	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	<b>\$375,827,877</b>	<b>100%</b>	<b>\$25,400,000</b>	<b>7%</b>

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.63 Township of Wayne Summary (CID 422027)

The following pages include Flood Risk data for the Township of Wayne.

#### 3.3.63.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of Wayne	422027	5,113	100	34.9	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 4 policies totaling approximately \$681,000.

Data provided below only includes areas in the Township of Wayne that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.63.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of Wayne were updated due to new engineering analysis performed on Spartan Creek. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	1.1	0	-0.2	-0.2
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Township of Walker.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of Wayne flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of Wayne: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$704,152,837	80%	\$1,200,000	<1%	\$1,500,000	<1%	\$2,100,000	<1%	\$1,900,000	<1%	N/A	N/A
Commercial Building & Contents	\$84,785,595	10%	\$100,000	<1%	\$200,000	<1%	\$200,000	<1%	\$200,000	<1%	N/A	N/A
Other Building & Contents	\$92,603,383	10%	\$200,000	<1%	\$200,000	<1%	\$300,000	<1%	\$300,000	<1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$881,541,815	100%	\$1,500,000	<1%	\$1,900,000	<1%	\$2,600,000	<1%	\$2,400,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$20,000	N/A	\$30,000	N/A	\$30,000	N/A	\$30,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$881,541,815	100%	\$1,600,000	<1%	\$1,900,000	<1%	\$2,600,000	<1%	\$2,500,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of Wayne: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$704,152,837	80%	N/A	N/A
Commercial Building & Contents	\$84,785,595	10%	N/A	N/A
Other Building & Contents	\$92,603,383	10%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$881,541,815	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$881,541,815	100%	\$13,700,000	2%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.64 Township of West Brunswick Summary (CID 422028)

The following pages include Flood Risk data for the Township of West Brunswick.

#### 3.3.64.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of West Brunswick	422028	3,327	100	30.3	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 3 policies totaling approximately \$726,000.

Data provided below only includes areas in the Township of West Brunswick that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.64.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of West Brunswick were updated due to new engineering. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	2.3	0	-0.5	-0.5
Within Floodway	0.4	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of West Brunswick flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of West Brunswick: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$462,029,509	70%	\$400,000	<1%	\$700,000	<1%	\$4,900,000	1%	\$1,400,000	<1%	N/A	N/A
Commercial Building & Contents	\$77,529,911	12%	\$1,500,000	2%	\$2,000,000	3%	\$3,400,000	4%	\$2,700,000	3%	N/A	N/A
Other Building & Contents	\$118,591,858	18%	\$300,000	<1%	\$400,000	<1%	\$900,000	1%	\$600,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$658,151,277	100%	\$2,300,000	<1%	\$3,200,000	<1%	\$9,200,000	1%	\$4,700,000	1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$100,000	N/A	\$200,000	N/A	\$300,000	N/A	\$200,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$658,151,277	100%	\$2,400,000	<1%	\$3,400,000	1%	\$9,500,000	1%	\$4,900,000	1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of West Brunswick: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$462,029,509	70%	N/A	N/A
Commercial Building & Contents	\$77,529,911	12%	N/A	N/A
Other Building & Contents	\$118,591,858	18%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$658,151,277	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$658,151,277	100%	\$57,000,000	9%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



### 3.3.65 Township of West Mahanoy (CID 420792)

The following pages include Flood Risk data for the Township of West Mahanoy.

#### 3.3.65.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of West Mahanoy	420792	2,872	100	10.4	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 0 policies totaling approximately \$0.

Data provided below only includes areas in the Township of West Mahanoy that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.65.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of West Mahanoy were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	0.1	0	0	0
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of West Mahanoy flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of West Mahanoy: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$378,810,507	65%	\$20,000	<1%	\$30,000	<1%	\$30,000	<1%	\$50,000	<1%	N/A	N/A
Commercial Building & Contents	\$61,483,140	11%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Other Building & Contents	\$138,348,788	24%	\$0	0%	\$0	0%	\$0	0%	\$0	0%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$578,642,435	100%	\$20,000	<1%	\$30,000	<1%	\$30,000	<1%	\$50,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$0	N/A	\$0	N/A	\$0	N/A	\$0	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$578,642,435	100%	\$20,000	0%	\$30,000	<1%	\$30,000	<1%	\$50,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of West Mahanoy: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$378,810,507	65%	N/A	N/A
Commercial Building & Contents	\$61,483,140	11%	N/A	N/A
Other Building & Contents	\$138,348,788	24%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$578,642,435	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$578,642,435	100%	\$3,400,000	1%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

### 3.3.66 Township of West Penn Summary (CID 422029)

The following pages include Flood Risk data for the Township of West Penn.

#### 3.3.66.1 Overview

The information below provides an overview of the community's floodplain management program information as of the date of this publication.

Community Name	CID	Total Community Population	Percent of Population in Watershed	Total Community Land Area (sq mi)	Percent of Land Area in Watershed	NFIP	CRS Rating	Mitigation Plan
Township of West Penn	422029	4,442	100	58.0	100	Y	10	Y

- Participating in the 2013 Schuylkill County Hazard Mitigation Plan (updated) which expires in 2018.
- Past Federal Disaster Declarations for flooding = 1
- National Flood Insurance Program (NFIP) policy coverage (policies/value) = 37 policies totaling approximately \$8,355,200.

Data provided below includes areas in the Township of West Penn that are located within the Schuylkill Watershed Flood Risk Project, and do not necessarily represent community-wide totals. Section 2 of the FRR provides more information regarding the source and methodology used to develop the information presented below. Datasets used toward the generation of results of this project are described in Section 7 of the FRR and are found in the FRD.

#### 3.3.66.2 Community Analyses and Results

- **Changes Since Last FIRM**
  - Special Flood Hazard Area (SFHA) boundaries within the Township of West Penn were updated due to new engineering analysis. The data in this section reflects the comparison between the effective FIRM and the new analysis in this study.

The table below summarizes the increases, decreases, and net change of SFHAs for the community.

Area of Study	Total Area (mi <sup>2</sup> )	Increase (mi <sup>2</sup> )	Decrease (mi <sup>2</sup> )	Net Change (mi <sup>2</sup> )
Within SFHA	2.8	0	-0.8	-0.8
Within Floodway	0	0	0	0

*Although the Flood Risk Database may contain Changes Since Last FIRM information outside of the Schuylkill Watershed, the figures in this table only represent information within the Schuylkill Watershed.*

*Section 2 of the FRR provides more information regarding the source and methodology used to develop this table.*

- **Flood Depth and Analysis Grids**

- See the FRD for the following depth and analysis grid data (Section 2 of the FRR provides general information regarding the development of and potential uses for this data):
  - Multi-frequency flood depth grids (10-, 2-, 1-, and 0.2-percent-annual-chance flood events)
  - Percent annual chance of flooding grids
  - Percent chance of flooding over a 30-year period grids
- Additional information and data layers provided within the FRD should be used to further isolate these and other areas where flood mitigation potential is high. The FRD includes data which may be helpful in planning and implementing mitigation strategies. Properties located in areas expected to experience some depth of water should seriously consider mitigation options for implementation.

- **Flood Risk Results**

- The Township of West Penn flood risk analysis uses results from a FEMA-performed Hazus analysis which accounts for newly modeled areas in the Flood Risk Project and newly modeled depths for certain flood events. Additional information and data layers provided within the FRD should be used to further analyze potential losses and areas where they are likely to occur.

## Township of West Penn: Estimated Potential Losses for Flood Event Scenarios – Refined Analysis

Type	Inventory Estimated Value	% of Total	10% (10-yr) Dollar Losses <sup>1</sup>	10% Loss Ratio <sup>2</sup>	2% (50-yr) Dollar Losses <sup>1</sup>	2% Loss Ratio <sup>2</sup>	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>	0.2% (500-yr) Dollar Losses <sup>1</sup>	0.2% Loss Ratio <sup>2</sup>	Annualized Losses <sup>1</sup> (\$/yr)	Ann. Loss Ratio <sup>2</sup>
Residential Building & Contents	\$447,310,051	81%	\$200,000	<1%	\$300,000	<1%	\$2,400,000	1%	\$500,000	<1%	N/A	N/A
Commercial Building & Contents	\$43,330,052	8%	\$100,000	<1%	\$300,000	1%	\$1,500,000	3%	\$400,000	1%	N/A	N/A
Other Building & Contents	\$59,543,390	11%	\$100,000	<1%	\$200,000	<1%	\$600,000	1%	\$400,000	1%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$550,183,492	100%	\$500,000	<1%	\$800,000	<1%	\$4,600,000	1%	\$1,300,000	<1%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	\$20,000	N/A	\$30,000	N/A	\$200,000	N/A	\$40,000	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$550,183,492	100%	\$600,000	<1%	\$800,000	<1%	\$4,800,000	1%	\$1,300,000	<1%	N/A	N/A

Source: Hazus analysis results stored as the Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption

## Township of West Penn: Estimated Potential Losses for Flood Event Scenarios - TEIF 1.0

Type	Inventory Estimated Value	% of Total	1% (100-yr) Dollar Losses <sup>1</sup>	1% Loss Ratio <sup>2</sup>
Residential Building & Contents	\$447,310,051	81%	N/A	N/A
Commercial Building & Contents	\$43,330,052	8%	N/A	N/A
Other Building & Contents	\$59,543,390	11%	N/A	N/A
Total Building & Contents <sup>3</sup>	\$550,183,492	100%	N/A	N/A
Business Disruption <sup>4</sup>	N/A	N/A	N/A	N/A
<b>TOTAL<sup>5</sup></b>	\$550,183,492	100%	\$33,600,000	6%

Source: Hazus analysis results stored as the TEIF 1.0 Flood Risk Assessment Dataset in the Flood Risk Database.

<sup>1</sup>Losses shown are rounded to nearest \$10,000 for values under \$100,000 and to the nearest \$100,000 for values over \$100,000.

<sup>2</sup>Loss ratio = Dollar Losses ÷ Estimated Value. Loss Ratios are rounded to the nearest integer percent.

<sup>3</sup>Total Building and Contents = Residential Building and Contents + Commercial Building and Contents + Other Building and Contents.

<sup>4</sup>Business Disruption = Inventory Loss + Relocation Cost + Income Loss + Rental Income Loss + Wage Loss + Direct Output Loss.

<sup>5</sup>Total = Total Building and Contents + Business Disruption



## 4 Actions to Reduce Flood Risk

In order to fully leverage the Flood Risk Datasets and Products created for this Flood Risk Project, local stakeholders should consider many different flood risk mitigation tactics, including, but not limited to the items shown in the sub-sections below.

### 4.1 Types of Mitigation Actions

Mitigation provides a critical foundation on which to reduce loss of life and property by avoiding or lessening the impact of hazard events. This creates safer communities and facilitates resiliency by enabling communities to return to normal function as quickly as possible after a hazard event. Once a community understands its flood risk, it is in a better position to identify potential mitigation actions that can reduce the risk to its people and property.

The mitigation plan requirements in 44 CFR Part 201 encourage communities to understand their vulnerability to hazards and take actions to minimize vulnerability and promote resilience. Flood mitigation actions generally fall into the following categories:

- local plans and regulations,
- structure and infrastructure projects,
- natural systems protection, and
- education and awareness activities.

#### 4.1.1 Local Plans and Regulations

Preventative measures integrated into local plans and regulations can reduce future vulnerability to flooding, especially in areas where development has not yet occurred or where capital improvements have not been substantial. Examples include:

- Comprehensive land use planning
- Zoning regulations
- Subdivision regulations
- Participation in the NFIP Community Rating System (CRS)

Before Mitigation and After Mitigation



Communities will need to prioritize projects as part of the planning process. FEMA can then help route federal mitigation dollars to fund these projects.

NFIP's CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from community actions meeting the three goals of the CRS: to reduce flood losses, to facilitate accurate insurance rating, and to promote the awareness of flood insurance.

For CRS participating communities, flood insurance premium rates are discounted in increments of 5%; i.e., a Class 1 community would receive a 45% premium discount, while a Class 9 community would receive a 5% discount. (A Class 10 is not participating in the CRS and receives no discount.)

- Open space preservation
- Building codes
- Floodplain development regulations
- Stormwater management
- Purchase development rights or conservation easements

#### 4.1.2 Structure and Infrastructure Projects

Structure protection measures protect existing buildings by modifying the building to withstand floods, erosion, and waves or by removing buildings from hazardous locations. Examples include:

- Building relocation
- Acquisition and clearance
- Building elevation
- Barrier installation
- Building retrofit

Infrastructure projects such as upgrading dams/levees for already existing development and critical facilities may be a realistic alternative. However, citizens should be made aware of their residual risk. Examples include:

- Reservoirs, retention, and detention basins
- Levees and floodwalls
- Channel modifications
- Channel maintenance
- Seawalls, reventments, and bulkheads
- Groins, offshore breakwaters, and jetties

#### 4.1.3 Natural Systems Protection Activities

Natural systems protection activities reduce the impact of floods by preserving or restoring natural areas such as floodplains, wetlands, and dunes and their natural functions. Examples include:

- Wetland protection
- Habitat protection
- Erosion and sedimentation control

- Best management practices (BMP)
- Prevention of stream dumping activities (anti-litter campaigns)
- Dune protection measures such as walkovers, sand fencing, and vegetation

#### 4.1.4 Education and Awareness Activities

Public education and awareness activities advise residents, business owners, potential property buyers, and visitors about floods, hazardous areas, and mitigation techniques they can use to reduce the flood risk to themselves and their property. Examples include:

- Readily available and readable updated maps
- Outreach projects
- Technical assistance
- Real estate disclosure
- Environmental education
- Risk information via the nightly news

For more information regarding hazard mitigation techniques, best practices, and potential grant funding sources, visit [www.fema.gov](http://www.fema.gov) or contact your local floodplain manager, emergency manager, or State Hazard Mitigation Officer.

In Section 3, specific Areas of Mitigation Interest were identified. Table 4.1 below identifies possible mitigation actions for each AoMI to consider.

**Table 4-1. Mitigation Actions for Areas of Mitigation Interest**

<b>AoMI</b>	<b>Possible Actions to Reduce Flood Risk</b>
<b>Dams</b>	<ul style="list-style-type: none"> <li>• <i>Engineering assessment</i></li> <li>• <i>Dam upgrades and strengthening</i></li> <li>• <i>Emergency Action Plan</i></li> <li>• <i>Dam removal</i></li> <li>• <i>Easement creation in impoundment and downstream inundation areas</i></li> </ul>
<b>Levees (accredited and non-accredited) and significant levee-like structures</b>	<ul style="list-style-type: none"> <li>• <i>Generally same as dams above</i></li> <li>• <i>Purchase of flood insurance for at-risk structures</i></li> </ul>
<b>Coastal Structures</b> <ul style="list-style-type: none"> <li>• <i>Jetties</i></li> <li>• <i>Groins</i></li> <li>• <i>Seawalls</i></li> <li>• <i>Other structures</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Increase coastal setbacks for construction</i></li> <li>• <i>Habitat restoration programs</i></li> <li>• <i>Wetland restoration and mitigation banking programs</i></li> <li>• <i>Engineering assessment</i></li> <li>• <i>Structure upgrades and strengthening</i></li> <li>• <i>Emergency Action Plan</i></li> <li>• <i>Structure removal</i></li> </ul>

<b>AoMI</b>	<b>Possible Actions to Reduce Flood Risk</b>
<b><i>Stream Flow Constrictions (Undersized culverts or bridge openings)</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Engineering analysis</i></b></li> <li>• <b><i>Replacement of structure pre- and post-disaster</i></b></li> </ul>
<b><i>Past Flood Insurance Claims and IA/PA Hot Spots</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Acquisition</i></b></li> <li>• <b><i>Elevation</i></b></li> <li>• <b><i>Relocation</i></b></li> <li>• <b><i>Floodproofing</i></b></li> </ul>
<b><i>Significant Land Use Changes</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Higher regulatory standard</i></b></li> <li>• <b><i>Stormwater BMPs</i></b></li> <li>• <b><i>Transfer of Development rights</i></b></li> <li>• <b><i>Compensatory storage and equal conveyance standards</i></b></li> </ul>
<b><i>Key Emergency Routes Overtopped During Frequent Flooding Events</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Elevation</i></b></li> <li>• <b><i>Creation of alternate routes</i></b></li> <li>• <b><i>Design as low water crossing</i></b></li> </ul>
<b><i>Areas of Significant Riverine or Coastal Erosion</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Relocation of buildings and infrastructure</i></b></li> <li>• <b><i>Regulations and planning</i></b></li> <li>• <b><i>Natural vegetation</i></b></li> <li>• <b><i>Erosion Control Structures</i></b></li> <li>• <b><i>Building Setbacks</i></b></li> <li>• <b><i>Beach Nourishment</i></b></li> <li>• <b><i>Dune Construction</i></b></li> <li>• <b><i>Dune Protection Activities</i></b></li> </ul>
<b><i>Drainage or Stormwater-Based Flood Hazard Areas, or Areas Not Identified as Floodprone on the FIRM but Known to be Inundated</i></b>	<ul style="list-style-type: none"> <li>• <b><i>Identification of all flood hazard areas</i></b></li> </ul>
<b><i>Areas of Mitigation Success</i></b>	<b><i>N/A</i></b>

## 4.2 Identifying Specific Actions for Your Community

As many mitigation actions are possible to lessen the impact of floods, how can a community decide which ones are appropriate to implement? There are many ways to identify specific actions most appropriate for a community. Some factors to consider may include the following:

Refer to FEMA's "Local Mitigation Planning Handbook" for more information on practical approaches, tools, worksheets and local mitigation planning examples for how communities can engage in effective planning to reduce risk from natural hazards and disasters.

- **Site characteristics.** Does the site present unique challenges (e.g., significant slopes or erosion potential)?
- **Flood characteristics.** Are the flood waters affecting the site fast or slow moving? Are there wave hazards? Is there debris associated with the flow? How deep is the flooding?
- **Social acceptance.** Will the mitigation action be acceptable to the public? Does it cause social or cultural problems?
- **Technical feasibility.** Is the mitigation action technically feasible (e.g., making a building watertight to a reasonable depth)?
- **Administrative feasibility.** Is there administrative capability to implement the mitigation action?
- **Legal.** Does the mitigation action meet all applicable codes, regulations, and laws? Public officials may have a legal responsibility to act and inform citizens if a known hazard has been identified.
- **Economic.** Is the mitigation action affordable? Is it eligible under grant or other funding programs? Can it be completed within existing budgets?
- **Environmental.** Does the mitigation action cause adverse impacts on the environment or can they be mitigated? Is it the most appropriate action among the possible alternatives?

"Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards" provides a FEMA resource that communities can use to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.

Your local Hazard Mitigation Plan is a valuable place to identify and prioritize possible mitigation actions. The plan includes a mitigation strategy with mitigation actions that were developed through a public and open process. You can then add to or modify those actions based on what is learned during the course of the Risk MAP project and the information provided within this FRR.

## 4.3 Mitigation Programs and Assistance

Not all mitigation activities require funding (e.g., local policy actions such as strengthening a flood damage prevention ordinance), and those that do are not limited to outside funding sources (e.g., inclusion in local capital improvements plan, etc.). For those mitigation actions that require assistance through funding or technical expertise, several State and Federal agencies have flood hazard mitigation grant programs and offer technical assistance. These programs may be funded at different levels over time or may be activated under special circumstances such as after a presidential disaster declaration.



Communities can link hazard mitigation plans and actions to the right FEMA grant programs to fund flood risk reduction. More information about FEMA HMA programs can be found at <https://www.fema.gov/hazard-mitigation-assistance>.

### 4.3.1 FEMA Mitigation Programs and Assistance

FEMA awards many mitigation grants each year to states and communities to undertake mitigation projects to prevent future loss of life and property resulting from hazard impacts, including flooding. The FEMA Hazard Mitigation Assistance (HMA) programs provide grants for mitigation through the programs listed in Table 4.2 below.

**Table 4-2. FEMA Hazard Mitigation Assistance Programs**

Mitigation Grant Program	Authorization	Purpose
Hazard Mitigation Grant Program (HMGP)	Robert T. Stafford Disaster Relief and Emergency Assistance Act	Activated after a presidential disaster declaration; provides funds on a sliding scale formula based on a percentage of the total federal assistance for a disaster for long-term mitigation measures to reduce vulnerability to natural hazards
Flood Mitigation Assistance (FMA)	National Flood Insurance Reform Act	Reduce or eliminate claims against the NFIP
Pre-Disaster Mitigation (PDM)	Disaster Mitigation Act	National competitive program focused on mitigation project and planning activities that address multiple natural hazards

The HMGP and PDM programs offer funding for mitigation planning and project activities that address multiple natural hazard events. The FMA program focuses funding efforts on reducing claims against the NFIP. Funding under the HMA programs is subject to availability of annual appropriations, and HMGP funding is also subject to the amount of FEMA disaster recovery assistance provided under a presidential major disaster declaration.

FEMA's HMA grants are awarded to eligible states, federally-recognized tribes, and territories (Applicant) that, in turn, provide sub-grants to local governments and communities (sub-

applicant). The Applicant selects and prioritizes sub-applications developed and submitted to them by sub-applicants and submits them to FEMA for funding consideration. Prospective sub-applicants should consult the office designated as their applicant for further information regarding specific program and application requirements. Contact information for the FEMA Regional Offices and State Hazard Mitigation Officers (SHMO) is available on the FEMA website ([www.fema.gov](http://www.fema.gov)).

#### 4.3.2 Additional Mitigation Programs and Assistance

Several additional agencies including USACE, Natural Resource Conservation Service (NRCS), U.S. Geological Survey (USGS), NOAA, and others have specialists on staff and can offer further information on flood hazard mitigation. The State NFIP Coordinator and SHMO are state-level sources of information and assistance, which vary among different states.

The Silver Jackets program, active in several states, is a partnership of USACE, FEMA, and state agencies. The Silver Jackets program provides a state-based strategy for an interagency approach to planning and implementing measures for risk reduction.

## 5 Acronyms and Definitions

### 5.1 Acronyms

#### A

AAL	Average Annualized Loss
ALR	Annualized Loss Ratio
AoMI	Areas of Mitigation Interest

#### B

BCA	Benefit-Cost Analysis
BFE	Base Flood Elevation
BMP	Best Management Practices

#### C

CFR	Code of Federal Regulations
CID	Community Identification Number
COG	Continuity of Government Plan
COOP	Continuity of Operations Plan
CRS	Community Rating System
CSLF	Changes Since Last FIRM

#### D

DHS	Department of Homeland Security
DMA 2000	Disaster Mitigation Act of 2000

#### E

EOP	Emergency Operations Plan
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#### F

FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance
FRD	Flood Risk Database
FRM	Flood Risk Map
FRR	Flood Risk Report
FY	Fiscal Year

#### G

GIS	Geographic Information System
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#### H

HMA	Hazard Mitigation Assistance
HMGP	Hazard Mitigation Grant Program

#### I

IA	Individual Assistance
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## N

NFIA	National Flood Insurance Act
NFIP	National Flood Insurance Program
NRCS	Natural Resource Conservation Service

## P

PA	Public Assistance
PDM	Pre-Disaster Mitigation

## R

Risk MAP	Mapping, Assessment, and Planning
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## S

SFHA	Special Flood Hazard Area
SHMO	State Hazard Mitigation Officer

## U

USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey

## 5.2 Definitions

**0.2-percent-annual-chance flood** – The flood elevation that has a 0.2-percent chance of being equaled or exceeded each year. Sometimes referred to as the 500-year flood.

**1-percent-annual-chance flood** – The flood elevation that has a 1-percent chance of being equaled or exceeded each year. Sometimes referred to as the 100-year flood.

**Accredited Levee System** – A levee system that FEMA has shown on a FIRM that is recognized as reducing the flood hazards posed by a 1-percent-annual-chance or greater flood. This determination is based on the submittal of data and documentation as required by 44CFR65.10 of the NFIP regulations. The area landward of an accredited levee system is shown as Zone X (shaded) on the FIRM except for areas of residual flooding, such as ponding areas, which are shown as Special Flood Hazard Area (SFHA).

**Annualized Loss Ratio (ALR)** – Expresses the annualized loss as a fraction of the value of the local inventory (total value/annualized loss).

**Average Annualized Loss (AAL)** – The estimated long-term weighted average value of losses to property in any single year in a specified geographic area.

**Base Flood Elevation (BFE)** – Elevation of the 1-percent-annual-chance flood. This elevation is the basis of the insurance and floodplain management requirements of the NFIP.

**Berm** – A small levee, typically built from earth.

**Cfs** – Cubic feet per second, the unit by which discharges are measured (a cubic foot of water is about 7.5 gallons).

**Coastal High Hazard Area (CHHA)** – Portion of the SFHA extending from offshore to the inland limit of a primary frontal dune along an open coast or any other area subject to high velocity wave action from storms or seismic sources.

**Consequence (of flood)** – The estimated damages associated with a given flood occurrence.

**Crest** – The peak stage or elevation reached or expected to be reached by the floodwaters of a specific flood at a given location.

**Dam** – An artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material, for the purpose of storage or control of water.

**Design flood event** – The greater of the following two flood events: (1) the base flood, affecting those areas identified as SFHAs on a community's FIRM; or (2) the flood corresponding to the area designated as a flood hazard area on a community's flood hazard map or otherwise legally designated.

**Erosion** – Process by which floodwaters lower the ground surface in an area by removing upper layers of soil.

**Essential facilities** – Facilities that, if damaged, would present an immediate threat to life, public health, and safety. As categorized in Hazus, essential facilities include hospitals, emergency operations centers, police stations, fire stations, and schools.

**Flood** – A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters or (2) the unusual and rapid accumulation or runoff of surface waters from any source.

**Flood Insurance Rate Map (FIRM)** – An official map of a community, on which FEMA has delineated both the SFHAs and the risk premium zones applicable to the community. See also Digital Flood Insurance Rate Map.

**Flood Insurance Study (FIS) Report** – Contains an examination, evaluation, and determination of the flood hazards of a community, and if appropriate, the corresponding water-surface elevations.

**Flood risk** – Probability multiplied by consequence; the degree of probability that a loss or injury may occur as a result of flooding. This is sometimes referred to as flood vulnerability.

**Flood vulnerability** – Probability multiplied by consequence; the degree of probability that a loss or injury may occur as a result of flooding. This is sometimes referred to as flood risk.

**Flood-borne debris impact** – Floodwater moving at a moderate or high velocity can carry flood-borne debris that can impact buildings and damage walls and foundations.

**Floodwall** – A long, narrow concrete or masonry wall built to protect land from flooding.

**Floodway (regulatory)** – The channel of a river or other watercourse and that portion of the adjacent floodplain that must remain unobstructed to permit passage of the base flood without cumulatively increasing the water surface elevation more than a designated height (usually 1 foot).

**Floodway fringe** – The portion of the SFHA that is outside of the floodway.

**Freeboard** – A factor of safety usually expressed in feet above a flood level for purposes of flood plain management. “Freeboard” tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed (44CFR§59.1).

**Hazus** – A GIS-based risk assessment methodology and software application created by FEMA and the National Institute of Building Sciences for analyzing potential losses from floods, hurricane winds and storm surge, and earthquakes.

**High velocity flow** – Typically comprised of floodwaters moving faster than 5 feet per second.

**Levee** – A human-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding. (44CFR§59.1)

**Loss ratio** – Expresses loss as a fraction of the value of the local inventory (total value/loss).

**Mudflow** – Mudslide (i.e., mudflow) describes a condition where there is a river, flow or inundation of liquid mud down a hillside usually as a result of a dual condition of loss of brush cover, and the subsequent accumulation of water on the ground preceded by a period of unusually heavy or sustained rain. A mudslide (i.e., mudflow) may occur as a distinct phenomenon while a landslide is in progress, and will be recognized as such by the Administrator only if the mudflow, and not the landslide, is the proximate cause of damage that occurs. (44CFR§59.1)

**Non-Accredited Levee System** – A levee system that does not meet the requirements spelled out in the NFIP regulations at Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations (44CFR65.10), Mapping of Areas Protected by Levee Systems, and is not shown on a FIRM as reducing the flood hazard posed by a 1-percent-annual-chance flood.

**Primary frontal dune (PFD)** – A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

**Probability (of flood)** – The likelihood that a flood will occur in a given area.

**Provisionally Accredited Levee (PAL)** – A designation for a levee system that FEMA has previously accredited with reducing the flood hazards associated with a 1-percent-annual-chance or greater flood on an effective FIRM, and for which FEMA is awaiting data and/or documentation that will demonstrate the levee system’s compliance with the NFIP regulatory criteria cited at 44CFR65.10.

**Risk MAP** – Risk Mapping, Assessment, and Planning, a FEMA strategy to work collaboratively with state, local, and tribal entities to deliver quality flood data that increases public awareness and leads to action that reduces risk to life and property.

**Riverine** – Of, or produced by, a river. Riverine floodplains have readily identifiable channels.

**Special Flood Hazard Area (SFHA)** – Portion of the floodplain subject to inundation by the 1-percent-annual-chance or base flood.

**Stafford Act** – Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288. This Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.

**Stillwater** – Projected elevation that flood waters would assume, referenced to National Geodetic Vertical Datum of 1929, North American Vertical Datum of 1988, or other datum, in the absence of waves resulting from wind or seismic effects.

**Stream Flow Constrictions** – A point where a human-made structure constricts the flow of a river or stream.

## 6 Additional Resources

**ASCE 7** – National design standard issued by the American Society of Civil Engineers (ASCE), *Minimum Design Loads for Buildings and Other Structures*, which gives current requirements for dead, live, soil, flood, wind, snow, rain, ice, and earthquake loads, and their combinations, suitable for inclusion in building codes and other documents.

**ASCE 24-05** – National design standard issued by the ASCE, *Flood Resistant Design and Construction*, which outlines the requirements for flood resistant design and construction of structures in flood hazard areas.

National Flood Insurance Program (NFIP), Federal Emergency Management Agency (FEMA), [www.floodsmart.gov](http://www.floodsmart.gov)

FEMA, [www.fema.gov](http://www.fema.gov)

FEMA, *Guidelines and Standards for Flood Risk Analysis and Mapping*, [www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping](http://www.fema.gov/guidelines-and-standards-flood-risk-analysis-and-mapping)

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FEMA, 2007d. *Using Benefit-Cost Review in Mitigation Planning*, FEMA 386-5. Washington, DC, May 2007.

FEMA, 2007e. *Design Guide for Improving Critical Facility Safety from Flooding and High Winds: Providing Protection to People and Buildings*, FEMA 543. Washington, DC, January 2007.

FEMA, 2007f. *Selecting Appropriate Mitigation Measures for Floodprone Structures*, FEMA 551. Washington, DC, March 2007.

FEMA, 2007g. *Design Guide for Improving Hospital Safety in Earthquakes, Floods, and High Winds: Providing Protection to People and Buildings*, FEMA 577. Washington, DC, June 2007.

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FEMA, 2010b. *Home Builder's Guide to Coastal Construction*, FEMA P-499. Washington, DC, December 2010.

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## 7 Data Used to Develop Flood Risk Products

GIS base map information was acquired from the following sources:

- FEMA
- U.S. Census Bureau
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, National Cartography and Geospatial Center
- U.S. Geological Survey

Corporate limits, roads, and hydrographic features were obtained from FEMA's most recent countywide FIRM updates.

Mitigation Plan information was acquired from local community reports, and FEMA.

Census Information was collected from FEMA's HAZUS version 3.1 software products.

Population data reported for each community is based on the 2010 census. As such, there may be minor discrepancies in the FRD when comparing census blocks to communities to arrive at total population.

HUC8 boundaries were provided by the USDA

Changes since last FIRM are provided for the project area, only as summarized in this Flood Risk Report, as developed for the most recent map version of the Flood Insurance Rate Map (FIRM). All data was digitally captured from the previous effective maps.

A Hillshade, or Shaded Relief is shown on the background of the Flood Risk Map. Hillshade is a cartographic process of 3-D visualization of the terrain on maps and charts that implements graded shadows created by light shining from the north-west direction. These data were acquired from the USGS. This data layer is called a "Hillshade" in the FRD.

The General Building Stock represents the total economic inventory for a community (i.e. an estimate of the replacement dollar cost for all buildings and their content). These data come from the Census information in HAZUS version 3.2. For this report, no updates or changes were made to the default

General Building Stock data provided by HAZUS.